SOAP

SANITARY CHEMICALS

UNGERER & COMPANY
161 Sixth Ave. New York

DIVIDENDS OF SATISFACTION

OUR customers **know** that over a period of years we have been giving them **dividends of satisfaction.**

WHEN prices have sky-rocketed we have tightened our belts and kept the price to you at the lowest possible levels.

WHEN materials have been next to impossible to obtain, we have stood on our heads to get them for you. When they could not be secured "no how," we have provided adequate substitutes wherever possible.

THAT is what we call **dividends of satisfaction.**

Aromatics Division
GENERAL DRUG COMPANY

644 PACIFIC ST., BROOKLYN, N. Y.

9 S. CLINTON ST., CHICAGO 1019 ELLIOTT ST. W., WINDSOR, ONT.

How Is A War Like A Tree?

That's easy: the part you can see is only a fraction of the whole. Just as two-thirds of a tree is beneath the surface, so is two-thirds of our nation's war effort.

Planes fly, and you see them. Men fight, and you read about it. Those men and millions like them . . . working in war plants throughout the country . . . are kept in constant fighting and working trim by sanitary chemicals which pour out of Fuld Brothers' factories 24 hours a day.

There's a job to be done . . . we're doing our part.

Fuld Brothers

FULD SELLS JOBBERS ONLY! • FULD MAKES IT FOR THE LEADERS

702 South Wolfe Street, Baltimore, Maryland • 2444 East 8th Street, Los Angeles, California

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

....AND THERE'S QUITE A DIFFERENCE
in Soap Perfuming, too!

The creating of soap perfumes at best, is a specialist's job. It requires a happy combination of soap technician and master perfumer, plus long experience. These days, with fewer materials to choose from, the job is doubly difficult. So depend on a competent perfumer whose experience in the soap field is broad, to solve your problems in soap scenting. Our perfumers are rich in such specialized experience.

VAN AMERINGEN-HAEBLER, INC. ★ 315 FOURTH AVE., NEW YORK CITY

Volume XVIII Number 11

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

NOVEMBER
1942

SANITARY Products Section, which forms a part of every issue of SOAP, begins on page 75.

MEMBER AUDIT BUREAU OF CIRCULATIONS

Contents

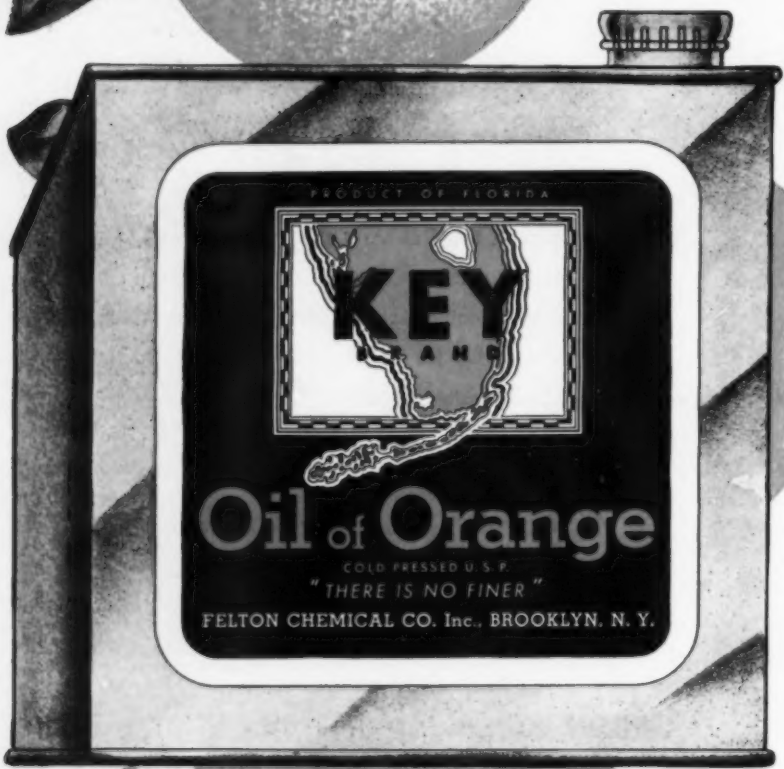
- Editorials 19
- Salt Water Soap 21
  By BLANCHE NAYLOR
- Perfuming Materials 25
  By WALDO F. REIS
- Soap in the Rubber Crisis 28
- Skin Protective Creams 57
- What Specifications for Insecticide Base Oil? .. 87
- Insecticides for the Army 91
- Pyrethrin Determination 95
  By DR. J. J. T. GRAHAM
- Poison Antidotes 100
  By DR. JAMES C. MUNCH
- Bids and Awards 45
- New Trademarks 47
- Raw Material Markets 51
- Raw Material Prices 53
- Products and Processes 63
- New Patents 64
- New Equipment 69
- Classified Advertising 115
- Advertisers' Index 119

Published by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, $3.00 per year. Foreign, including Canadian, $4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York, under act of March 3, 1879. Mail circulation, October, 1942, issue 3,770 copies. Total circulation, 4,000.

TRY IT... and you'll agree "There is no finer"



NOTED for its fine aroma, KEY BRAND OIL OF ORANGE, produced in our modern plant in Florida, will render utmost satisfaction in any formula where fine Orange Oil is used.

If you are using Orange Oil in your soap perfume formula, by all means investigate the fine quality and interesting price of "Key Brand" Oil of Orange.

Our representative will be glad to discuss with you now the question of your 1943 Orange Oil requirements. A letter to us will bring you a liberal testing sample and our latest quotation.

FELTON CHEMICAL CO., Inc.
599 JOHNSON AVENUE, BROOKLYN, NEW YORK
BRANCHES IN PRINCIPAL CITIES

Manufacturers of Essential Oils, Aromatic Chemicals, Perfumes & Flavors

THIS IS A COLLECTION OF SAMPLES OF JUST SOME OF THE PRODUCTS PACKAGED BY S&S MACHINES

We've done our share of America's packaging, too

In many lines, the bulk of production of the industries is S&S packaged. . . . In many more, the job is split about evenly between S&S and others. . . . In almost every industry where the material to be packaged is a powder, granular substance or paste, S&S has supplied a goodly percentage of the packaging machines.

This is easy to understand when you remember that, in many cases, it has been S&S improvements that have made the advances in packaging technique — that have made practical many better packages at lower unit costs. Further, it has been S&S developments, like that of the first tight-wrapper, that alone have made possible many new triumphs of modern packaging.

TODAY — WE'VE FOUND FOUR NEW WARTIME WAYS TO SERVE:

We supply many essential new S&S machines . . . and help convert old S&S equipment to wartime uses. And, drugs and chemical products for the armed forces and the home front — munitions — a vast number of familiar foods and a large percentage of the new dehydrated foods — a hundred other war-important items — are speeding through production faster, in greater volume, because of this.

We are helping, too, in solving war's new and unfamiliar packaging problems, through close collaboration with many packagers.

And, we are doing this in addition to production direct for the United States Government, at whose disposal our facilities have been placed.

ONE OTHER JOB WE WANT —

If you have a packaging problem that's war-essential, bring it to our engineers. We'll help any way we can, so long as it contributes toward Victory.

A GOODLY PERCENTAGE OF AMERICA'S FAMOUS PRODUCTS ARE PACKAGED ON

- **S & S** Filling Machines
- **S & S** Carton Filling and Sealing Machines
- **S & S** Bag and Envelope Fillers and Sealers
- **S & S** Tight-Wrappers
- **S & S** Complete Packaging Line

STOKES & SMITH Co 4915 SUMMERDALE AVENUE, PHILADELPHIA, U. S. A.

FILLING • PACKAGING • WRAPPING MACHINES

STANDARD SYNTHETICS

ESSENTIAL OILS

Almonds
Amber
Bois de Rose
Camphor
Cananga
Cassia
Cedarleaf
Cedarwood
Citronella
Cloves
Eucalyptus
Lavender Spike
Lemongrass
Petitgrain
Pine Needles
Rose
Rosemary
Safrol
Sage Spanish
Sandalwood
Sassafras
Thyme

•

PERFUME BASES
for
Soaps
Shampoos
Liquid Soaps
Deodorant Blocks
Theatre Sprays
Floor Wax
Polishes
Disinfectants
Insecticide Sprays
Toilet Preparations

•

AROMATIC CHEMICALS

SPIKE LAVENDER
ROSEMARY

Of special interest at this time are our spot stocks of Spanish Rosemary and Spike Lavender. We are direct importers and are in position to offer oils of pleasing quality. May we submit samples of these oils as well as any others in which you are interested?

In addition to offering a complete line of essential oils and aromatic chemicals we are headquarters for all types of perfume bases. Some of the products being perfumed by our laboratories are listed at the left. What perfuming problem do you have on which we may be of assistance?

STANDARD SYNTHETICS, INC.

119 WEST 25TH ST., NEW YORK, N. Y.

Chicago • San Francisco • Kansas City, Mo.

What a show TREET-X gives every jobber's salesman! The only prop you need is a lowly floor brush . . . sprinkle a few handfuls of TREET-X on any floor made—asphalt tile, rubber, cork, terrazzo—*any floor*—and watch it take on new life, *new lustre*—watch your customer's eyes when he sees this product—that *looks* like a sweeping compound—*perform* like a costly polish.

Try TREET-X on ballroom floors, armories, gymnasiums — it can't scratch — because there's not a grain of sand in a barrelful! It's as gentle as a bride's kiss—yet it's got what it takes to absorb and hold down dust, and assist removal of dirt and grime.

It's got what it takes, but it's got NO OIL . . . no oil to stain expensive woods and textures. What it does have is what every polished floor craves—you guessed it, it's WAX . . . wax, blended microscopically fine into every cherry red particle . . . wax of a quality so choice that leading floor manufacturers give this new HYSAN product their four star endorsement, with no ifs or buts.

It's a show for JOBBERS ONLY, and your ticket to the preview is the coupon below.

HYSAN

MANUFACTURING CHEMISTS

PROTECT YOUR LABEL HYSAN

HYSAN PRODUCTS COMPANY
58 E. Cullerton St., Chicago

Send us free TREET-X sample and data.

Firm .....

City .....

Street ..... By .....

S-11-42

Javonella

Perfect for Perfuming

★ LAUNDRY SOAPS ★ WASHING POWDERS ★ LIQUID CLEANSERS ★ POLISHES, ETC.

EVEN when oil of citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

WRITE FOR SAMPLES AND QUOTATIONS

FELTON CHEMICAL COMPANY
599 Johnson Ave., B'klyn, N. Y.
BRANCHES IN PRINCIPAL CITIES

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME AND FLAVOR OILS

into the cauldron of war...

Pound by pound, ton by ton, carload by carload, America's scrap is coming in.

It can't come in too fast.

For scrap is the stuff of which the materials of war are made. The cheapest stuff and, for many uses, the best.

Soda ash is used to remove sulphur and other impurities from molten iron. It makes possible the production of sound, durable iron products even though increased percentages of scrap are used. It also permits the use of lower grade scrap.

Michigan Alkali Soda Ash, along with many other Michigan Alkali Products, is going to war in many ways, for many industries.

Let's all get in the scrap, and win!

WYANDOTTE

MICHIGAN ALKALI COMPANY

WYANDOTTE, MICHIGAN

NEW YORK • CHICAGO • CINCINNATI • ST. LOUIS • CHARLOTTE • DETROIT

DISTRIBUTORS IN ALL PRINCIPAL CITIES

SODA ASH • CAUSTIC SODA • CHLORINE • BICARBONATE OF SODA • CALCIUM CARBONATE • CALCIUM CHLORIDE • DRY ICE

Natural or Synthetic?

Working with the materials that are available today, the perfume chemist is performing major miracles in creating aromatics and floral odors that rival those formerly dependent on an abundance of natural raw materials.

Here at Givaudan, we have a well balanced and still reasonably complete line of both artificial essential oils and aromatic chemicals.

You will find these materials of real value in meeting your present needs. And in addition, we will be glad to place at your service our own experience in the development of new products and in improvement of the old. Your problem will be given prompt and considered attention.

GIVAUDAN-DELAWANNA, INC.

330 WEST 42ND STREET, NEW YORK, N. Y.

Caustic Soda keeps 'em flying!

Solvay Caustic Soda keeps 'em flying and rolling... by keeping the wheels of industry humming... for it is down deep in industry, before materials become machines... when rayon is still a liquid, when gasoline is coming from the crude, *that caustic soda is essential!*

SOLVAY SALES CORPORATION *Alkalies and Chemical Products Manufactured by The Solvay Process Company*

Norda

Scarcity of floral oils . . .

Present dwindling supplies of natural floral essences emphasize the value of high quality substitutes.

Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these newer substitutes as an answer to the growing scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

OIL PICHANA

(PRONOUNCED "PEACHANA")

This is an essential oil, entirely new to the manufacturers of soaps and allied industries. It is distilled in Brazil exclusively for our firm.

It is technically known as Palma Rosa Indigena. but its true botanical name is Manihot Ultissimo-Manihot.

Refractive Index @ 20—1.4857

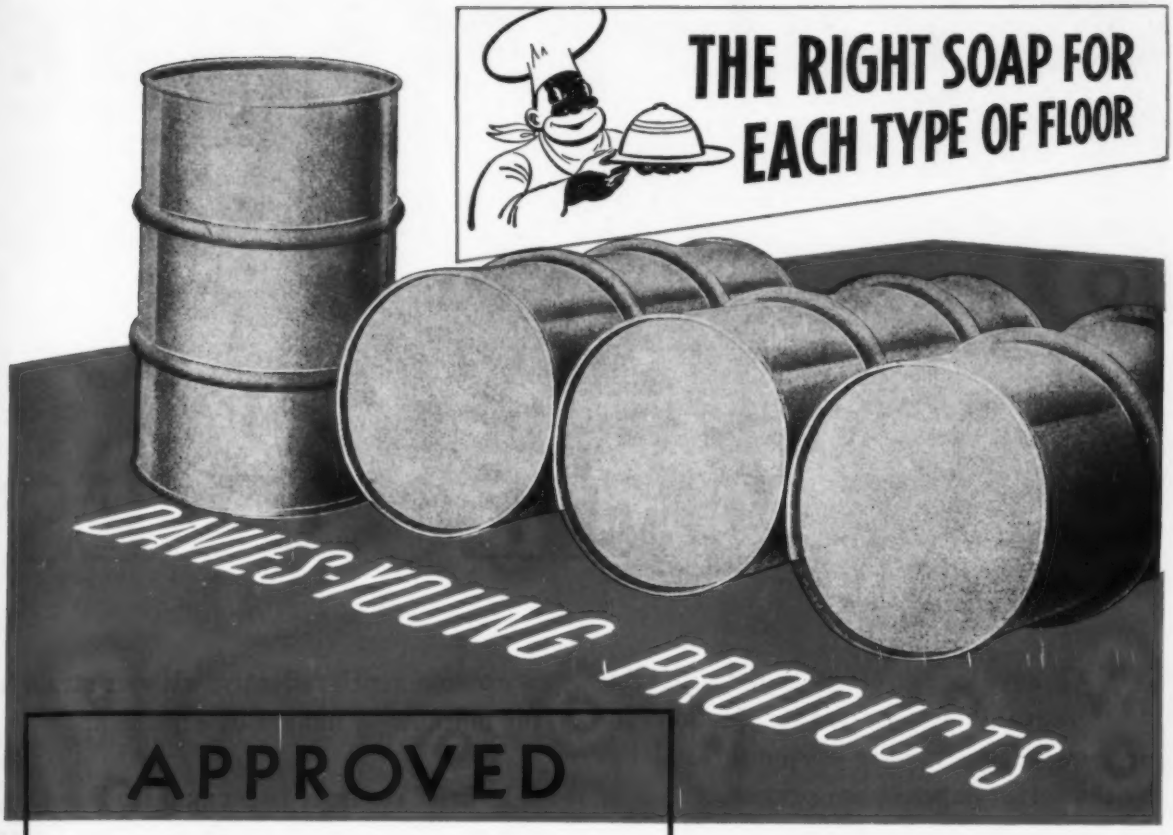
Specific Gravity @ 15— .8797

Oil Pichana has a powerful odor, resembling that of both Geranium and Genet, and it is a perfume raw material of excellent possibilities.

We will gladly send samples for your own testing.

BUSH PAN-AMERICA, LTD.

136 LIBERTY STREET, NEW YORK CABLE: ARROBUSH



APPROVED

By The Rubber Manufacturers' Association, Inc.

"BUCKEYE" PLAIN LIQUID FLOOR SOAP

"BUCKEYE" SASSAFRAS LIQUID FLOOR SOAP

"BUCKEYE" WAX CLEANER

"BUCKEYE" SPECIAL RUBBER CLEANER

will again appear in the list of approved cleaners issued by The Rubber Manufacturers' Association, Inc.

It's good service to sell the right cleaner for the right surface. Different types of floors require different cleaners for proper, economical maintenance. Davies-Young soaps are each specifically compounded for certain types of floors. In addition to the four products listed at left, Davies-Young Floor Soaps include

"EX-ALK" Liquid Cleaner (controls alkalinity)

"SANI-SCRUB" Liquid Soap

"FLOREX" Liquid Detergent.

We will be glad to suggest recommendations for particular kinds of floors.

THE DAVIES-YOUNG SOAP COMPANY
DAYTON • OHIO

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

Please send us samples, descriptions and prices of Liquid Floor Soaps.

Name .....

Address .....

City and State.....

Toggle Motion

for SOAP

and

EXPLOSIVES!

WE have long stressed the incomparable advantages of Toggle Motion for pressing soap, and have proven these claims by the performance of our presses.

The value of Toggle Motion is now demonstrated even more dramatically in the automatic detonator loader we have invented for Ordnance use. Automatic detonator loading had previously been regarded an impossible task: Among other delicate operations, the most sensitive powder used in modern warfare must be handled and compressed at many thousand pounds per square inch.

We adapted the Toggle Motion of our soap presses to all compressing operations on this machine. Instead of the sudden slap of pneumatic and other presses used on hand loading lines, the Toggle operated plungers approach the powder slowly. Great pressure is exerted gently, silently, without strain to the machine or danger of explosion.

In brief contrast to manual loading lines, this machine loads detonators better, faster, with complete safety, and with less than one-third the labor. Without Toggle Motion it could not have met the stringent Ordnance requirements of safety, production, and adherence to close tolerances.

Nor can any soap meet the demands of your sales manager without the advantages of Toggle pressing. The gradual pressure gives soap time to adapt itself to engraving and other die recesses, and brings out clear, sharp letters and designs. Toggle presses produce the finest possible finish and create a desire for possession never achieved by any other means.

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

EDITOR

NINETY per cent of fats and oils based on the quarterly averages for 1940 and 1941,——this is the allocation figure set by the WPB in revised Order M171 for soap manufacture on and after September 1, 1942. For stating that in our opinion this was a liberal figure and implying that it is in effect no allocation at all, we have been taken sharply to task by a number of soap manufacturers. Essentially, they ask if we are inviting the WPB really to clamp down on the soap industry in the matter of fat and oil supplies,—and why we pick a time like this to stick a knife in the back of the industry.

After going over the arguments which form the basis of the criticism leveled at us, —that this curtailment will interfere seriously with adequate soap output in the face of a greatly increased consumption by a nation at war, that we invite further and sharper curtailment of fat supplies for soap manufacture, and others,—we find only one that has a solid foundation in fact. Any curtailment in soap production may bring a *reduction in glycerine output,* and irrespective of the immediate status of stocks, *top glycerine output must be maintained.*

Far from advocating a further cut in fat allotments for soap manufacture, we question the need for *any kind of allocation* at this time. We question the purpose behind the order and as we stated last month, " . . . wonder what the limitation order will accomplish." With present fat stocks and especially the current domestic rate of production of oils and fats, is there need to build a reserve of edible fats larger than that always on hand? We do not believe so. After some twenty-five years of rather close study of the facts and figures on oil and fat production in this country, we hazard a guess that if it is really needed, a fifteen billion pound oil and fat production in the United States is well within the range of probability. So, we repeat, we see little need for increasing our oil and fat reserve, and no need today for allocation in soap manufacture.

TO return to the criticism evoked by our comments on the oil and fat limitation order, it would seem that part of the criticism touches something akin to a sour note. We feel that one or two of our critics would have better left their pieces unsaid because these reveal quite clearly that their primary interest today is to let nothing,—not even the war effort,—if they can help it, interfere with their "business as usual." Whether the action of the WPB is right or wrong, necessary or unnecessary, they apparently do not care just so long as there is no interference with their customary operations. While they give lip service to the war effort and agree that we must all "pull in our belts," they show unmistakably that when any sort of wartime restriction threatens them, it is a horse of another color. Hence, the ready criticism of us when we failed promptly to label revised Order M-71 as a threat to the soap industry.

The attitude of these soapers,—and we believe that such are in a very small minority,—is to some extent understandable. They evidently feel that their own self-preservation is at stake,—and to a degree, it is. But we feel that they can better preserve a

healthy status by putting their cards on the table and not trying to mislead the WPB or us or anybody else. We remind them again that this country is at war, and that thus far, they have been extremely fortunate in that the war has interfered with them but little.

NOTHING will be permitted to interfere with maximum glycerine production, and stocks on hand will be maintained at top levels for immediate war uses when needed. Except for our military needs and for lend-lease requirements, there will be no dissipation of glycerine supplies. With any reduction of supplies as a result of these needs, there comes the problem of further increasing glycerine recovery. Likewise this means complete elimination of non-essential uses for glycerine and curbing of the less essential uses in line with their essentiality.

These are basically the views of George Wrisley, chief of the soap and glycerine unit of the War Production Board's Chemical Division expressed in an address recently at a meeting of the American Oil Chemists' Society. That soap and glycerine producers will have to conform to the changing requirements of such a program goes without saying. The prospect of further restrictions is not pleasant,—but as Mr. Wrisley stated: "You will have to do it voluntarily or isn't it reasonable to suppose that there will be a way to make you do it?"

SPEAKING of steel drum returns, a floor wax manufacturer has made a very constructive suggestion which it is believed may help to solve the returnable drum problem. He suggests the use of two stickers, one to be attached to every drum and one to the invoice covering the drum. The sticker on the drum is to state that the container is the property of the shipper, that it is not sold or given away with the merchandise, and that it must be returned at the earliest possible moment. The sticker to be attached to the invoice should carry much the same message. Both should state so that it cannot be missed, "This drum must be returned." War Production Board Limitation Order L-197 should be mentioned to emphasize the fact that the demand for prompt return of the drum grows out of a Government order.

Right at the moment, the supply of used steel drums in the hands of manufacturers may be quite large and the problem of scarcity remote. But unless every drum is carefully conserved and recaptured, a year hence may see a different situation. We cannot emphasize too strongly the need for full enforcement of the return-drum demand beginning *right now*.

JUST when we figured that this home-made soap thing was a dead duck, up pops a nice illustrated story in the *New York Times* telling how Mrs. So-and-So "converts kitchen fat into soap for armed forces." This time, it is no less than the American Red Cross which is sponsoring the making and shipping of home-made soap to our soldiers and sailors,—or at least one chapter of the American Red Cross. The lady in question expresses the view that her soap making does not interfere with the national fat salvage campaign "because of the small amount of fats needed to make soap" and that anyway soap is just as important to our fighting men as are explosives.

That this thing was something of a publicity stunt is quite obvious. It is also obvious that the American Red Cross as a whole should not be blamed because its name is used to sponsor a lot of foolish drivel and to satisfy the desire of some women to get their "names in the paper." If by chance, this story cleared through the regular Red Cross public relations department, however, we suggest that they should be enlightened.

SALT WATER SOAP

Substitution of synthetic detergents in soap for the Navy to replace free lathering properties of high lauric acid oils now unavailable

By Blanche Naylor

AT the top of the list of product development problems which soap makers have had to face during their first year of operation under war-time conditions has been a satisfactory replacement for salt water soaps of the pre-war variety. It is unfortunate, of course, that just at the time when Navy demand for salt water soaps has mounted to record levels, the imported tropical oils of high lauric acid content, coconut, palm kernel, babassu, etc., on which salt water soaps of the past have always been based, have become practically unavailable for such use. Abrupt changes in soap makers' old and accepted formulas, and equally rapid changes in Navy specifications have been necessary. Both have been made with alacrity and the industry has thus been able over recent months to turn out on schedule the tremendous tonnage of salt water soaps that have been needed.

The U. S. Bureau of Ships brought out a new specification early this year, as interim specification 51D7, asking that producers familiarize themselves with its provisions and prepare to quote on contemplated large purchases. This new specification superseded the former standard for Navy salt water soap purchases (P-S--611a) which called for soap made from coconut oil, palm kernel oil or a combination of the two. The new specification calls for a soap made chiefly of tallow, with the allowance that 10 per cent of the fats may be other domestic fats or oils, or rosin. A synthetic detergent, minimum 20 per cent by weight, is specified to provide the nec-

Synthetic detergents sub for coconut oil in the new Navy salt water soaps. Point of failure for many of the new brands in Naval tests is cleansing ability. Only a limited number of products pass strict specification on removal of soil.

essary foaming and cleansing power in salt water.

First contracts covering soaps based on the new specification were signed only two months ago, the initial orders totaling almost 12,000,000 pounds, which was to cover five months replenishment. Over the course of the coming year some 30,000,000 pounds of soap are to be bought. First deliveries are just coming through now and no word is yet available as to how these initial orders are faring under the exacting Navy tests. It will be additional months, of course, before reports start to come back from the ships at sea as to how well American soap makers have succeeded in solving this perplexing soapmaking problem.

Up to the present time bidding on the new salt water soap has been confined largely to ten or a dozen of the larger soap and detergent firms, although there is nothing which would prevent the small manufacturer from competing in this field except, perhaps, the size of the quantities of soap involded. Manufacturing procedure does not involve the use of any special equipment—nothing in fact other than the kettles, crutchers, frames, etc. which are essential to all soap production in bar form. Up to this point, however, the manufacturers of the various synthetic detergents which have been found useful in the new type salt water soap have had an appreciable advantage over the small soap maker in bidding. It remains to be seen whether they will continue to bid on finished soap or whether they may later be content to limit their activities to sale of raw material to the soap trade, letting soapers take care of the actual soap making operation. In the long run the latter would seem to be the most logical and desirable result, although in the first need of the Bureau of Ships for quick delivery of initial stocks of finished soaps, the ability of the raw material suppliers to carry through and supply a finished soap has no doubt proved helpful to the government.

For other concerns who may shortly be developing their own products for this particular market, there are a number of important considerations which should be kept in mind. To be acceptable these new salt water soaps

1. *Must lather.*

Practically all of the 300 odd products offered for the purpose pass this test satisfactorily.

2. *The soap must clean.*

Here is the point of failure for many brands, so far as Navy specifications are concerned. Only about six of the 300 products on the market will do an adequate cleaning job. The balance are unable to pass strict Navy tests for removal of test soil from fabric.

3. *The product must remain stable.*

Here is another point where many products have fallen down. There is a notable lack of stability in many of the products so far developed. When combined with tallow soap many of the synthetic detergents that have been tried simply disintegrate. Others tend to break down and decompose completely.

4. *Cost must be low.*

Naturally the Navy prefers to pay as little as possible for the most efficient cleaning agent. Cost, incidentally, as compared with cost of the product formerly bought, is based on a basis of performance, rather than on a pound for pound calculation.

TURNING to the specification itself, there are a number of points that will stand clarification. Referring to the essential synthetic detergent, it is provided that "the active ingredient shall preferably be a member of the class represented by the general formula

$$A—R—SO_3Na$$

in which A is an alkyl radical containing ten or more carbon atoms, and R is an aromatic or aliphatic grouping." The selection of the word "preferably" is of particular interest, since one detergent of this particular type has found most widespread use in this new field. The wording would seem to indicate that the door has by no means been shut on other developments, and the Bureau of Ships has already, so we are told, approved products based on synthetics of a different formula. They will very definitely welcome the efforts of the soap industry in developing other replacements that will meet the prescribed tests.

Stability has been one of the stumbling blocks in the formulation of an acceptable product up to this point. The active ingredient, says the specification, must be "completely stable in

the presence of moist soap, as compounded in the detergent bar, during one year of storage under normal conditions." This stability factor is an important consideration, especially for use of the product in high temperature climates. Since so much of the activity of the Navy promises to be in the tropical zones, stability under high temperatures takes on added importance.

Maximum free alkali, as listed in the new specification is set at 0.1 per cent. This contrasts with an allowable 0.5 per cent in P-S-611a of the Bureau of Standards. Maximum matter insoluble in water is set at 0.3 per cent as against 0.5 per cent in P-S-611a. Because of the cold process of manufacture usual under P-S-611a, these higher tolerances were allowed. It was considered unnecessary to allow such light tolerances in the new specification. Another change in the specification in keeping with war-time necessity is the restriction on glycerin content. Maximum glycerin is fixed at 0.7 per cent for salt water soap.

As for the fat charge, tallow is specified as the "chief" ingredient, although 10 per cent of other domestic fats or oils, or rosin are admissible, as noted above. Opinion in the trade indicates that full advantage of this provision is being taken to include the maximum rosin allowable, which is 4 per cent by weight of the finished soap. Rosin soaps are particularly suitable for salt water use as they definitely aid lathering. There would seem to be little advantage in making use of other domestic oils such as cotton, corn or peanut, since they are higher in cost than rosin and would not tend to produce as good a soap for this particular purpose.

Incidentally the specification is still undergoing much study and there is a possibility that revisions may be announced shortly. There has been some talk of reducing the tolerance on rosin, and there seems to be a possibility too that revisions in the tests for stability may be considered. It is reported, too, that the specification will be offered to Committee D-12 of the American Society for Testing Materials at its next meeting for possible comment and criticism, which may lead to further suggestions for revision.

PURCHASES of the new type soap have been under the general charge of Admiral Young of the Bureau of Supplies and Accounts in Washington. Tests are made in the Navy laboratory in Brooklyn under the direction of F. Krassner, chief chemist of the Naval Supply Depot, and a member since its formation of A.S.T.M. Committee D-12, (Soap Specifications Committee.) Lieutenant R. E. Silver, Inspection Officer of the Supply Corps in Brooklyn, also serves as one of the Navy's soap experts.

To supplement the work of commercial firms, the Navy is also doing its own special research and laboratory investigation on new developments in detergents.

The three principal tests to which the new salt water soap is subjected include its ability to remove soil, its ability to lather or foam, and its freedom from any tendency toward dermatitis. The ability of the product to remove soil is tested by application of a standard soil, laundering, and then checking reflectometer readings of the laundered sample against an unsoiled square as a control. The two must match within 5 per cent. It is on this test, as indicated above, that many of the new products have fallen down.

The dermatitis test insures that acceptable products will show no tendency to cause itching and scratching on the skin of wearers of clothing laundered with the detergent. The tests are made by exposing the arms of test subjects to saturated pads, which are left on for eight hours and the areas then compared for signs of irritation.

It is a little too early as yet, of course, to be entirely confident that the problem of replacing former types of salt water soaps has been solved in the best possible way. However, all signs point in this direction, and it is agreed that the soap industry has been particularly fortunate in having synthetic detergents to turn to. Ten years ago these products were still in their infancy, and at the time of the last world war the replacement of coconut oil soaps would have presented an even more serious problem than it has under present conditions. It would seem on the basis of reports up to this point, that the American detergent industry has been able to develop a replacement product which fills the gap satisfactorily, and which in many respects offers characteristics superior to those of previous standards.

Tests are made in the Navy Laboratory in Brooklyn under the direction of F. Krassner. Included in the rigid list of tests is one which will expose and reject any soap which in use might exhibit a tendency to cause dermatitis among its users.

There is an advantage to the men at sea in the new soaps, for they can be used equally as well in cold as in hot water, while the old type salt water soap required warm or hot water for adequate performance.

As an additional advantage, less of the new type soap is required, and washing time is said to be considerably shorter. All who have worked with the new synthetics emphasize that it is far worse to use too much detergent than too little. The precise quantity for each use should be determined, and the point kept in mind that excess concentration will not result in greater efficiency. Complete washing can be accomplished with the new synthetics in much shorter time than with the old type soaps, it is reported. In many cases certain washing operations can be completed in from two to five minutes, as compared with required time of 20 minutes or more with the old type soaps. With the new detergents it is also possible to avoid curd formation which was a drawback in use of older types of salt water soaps. In washing certain materials with the old type soap it was often found almost impossible to remove the curds completely from the washed fabric.

With the use of the new synthetics, an additional factor of safety is provided by the insecticidal properties which they contribute to the soap. Some products claim to wash-in insecticidal properties as they clean, mothproofing the fabric and warding off other types of insect life. Killing efficiency of the synthetic detergents

(*Turn to Page 74*)

INTERIM specification 51D7 (INT) was issued by the Bureau of Ships, U. S. Navy Department, April 15, 1942, and has been in use since that time on bids for salt water soaps for the Navy. Copies of the complete specification are available through the Bureau's office at Washington, D. C. Detail requirements extracted from the specification are as follows:

E-1. Salt-water detergent, bar form, shall be a uniform mixture of substantially equal parts of a synthetic detergent and a well-made, boiled, settled kettle soap. The mixture shall be compounded by heating and mixing in a crutcher, if necessary with the addition of a small amount of water, to produce a uniform product which shall be cast into blocks. After cooling and solidifying the blocks shall be cut into bars of the desired shape and weight.

E-1a. *Soap.*—The soap shall be made chiefly from tallow, but may include 10 per cent of other domestic fats or oils, or rosin. The soap shall contain not more than 0.7 per cent of glycerine, based on the anhydrous soap content.

E-1b. *Synthetic detergent.* The synthetic detergent shall contain 50 per cent or more of active organic ingredient which shall foam and cleanse in sea water. The active ingredient shall preferably be a member of the class represented by the general formula,

$$A{-}{-}R{-}SO_3Na,$$

in which A is an alkyl radical containing 10 or more carbon atoms, and R is an aromatic or aliphatic grouping. The active ingredient shall be completely stable in the presence of moist soap, as compounded in the detergent bar, during one year of storage under normal conditions.

E-2. *Composition.*—The composition of salt-water detergent, bar form, shall be as shown in Table I.

E-3. *Performance.*—Salt-water detergent, bar form, shall remove the soil from a standard soiled sample of woolen cloth, using synthetic sea water, when tested as specified in paragraph F-2b.

E-4. *Lather.*—Salt-water detergent, bar form, shall produce a net volume of foam of not less than 45 ml, when tested as specified in paragraph F-2c.

E-5. *Dermatitis.*—Salt-water detergent, bar form, shall not cause dermatitis when tested as specified in paragraph F-2d.

The paragraphs from the testing section dealing with performance of the soap, lather and dermatitis, are as follows:

F-2b(2)c. *Soiling procedure.*—The cloth shall be uniformly soiled with the soiling formula to a shade which gives a reflectance (per cent white) of 35 to 40 when read on the Lange reflectometer, or a reflectance of .——to——. when read on the Hunter reflectometer. This is best accomplished by alternately dipping the wool cloth in the soiling solution and then passing it through a wringer for about 10 repetitions. The wringer pressure should be heavy. The soiled cloth should be dried in an air oven at 80° to 100° C. for 1 hour. Since the soil may become more firmly fixed on long aging, the soiled cloth must not be used if over 3 months old.

F-2b(3). *Ability of detergent to remove soil.* Prepare a 2 per cent solution of the salt-water detergent (based on a product having 25 per cent moisture content) in the synthetic sea water. Warm if necessary to completely dissolve the detergent and then cool to between 20° and 25° C. Pour 250 ml of the detergent solution into an 8-inch evaporating dish or shallow pan. Wash a 4-inch square piece of soiled wool fabric by squeezing it vigorously 50 times in the detergent solution within 2 minutes. Rinse in lukewarm distilled water and dry. Wash an unsoiled square of wool fabric by exactly the same procedure in a fresh 250 ml portion of the detergent solution, rinse, and dry. The previously soiled square shall be within 5 per cent of the reflectance of the unsoiled square.

F-2c. *Ability to lather or foam.*—Prepare a 1 per cent solution of the salt-water detergent (based on a product having 25 per cent moisture content) in synthetic sea water. Introduce 50 ml in a 250 ml graduated cylinder and adjust the temperature to between 20° and 25° C. Close the end of the cylinder and shake vigorously 50 times within 2 minutes. Place the cylinder in an upright position on a table, wait 30 seconds, and read the net volume of foam (total volume minus volume of liquid). This volume shall be not less than 45 ml.

F-2d. *Dermatitis.*—Two gauze pads of equal size, and approximately 1-inch square, shall be prepared. One pad shall be saturated with a 2 per cent solution of the salt-water detergent in sterile distilled water. The other pad shall be saturated with a 2 per cent solution in sterile distilled water of a coconut oil soap in accordance with Federal Specification P-S-611, listed in section A. The two pads shall be fastened in adjacent positions on the inside of the forearm by means of waterproof adhesive tape which completely covers the pads. At the end of 8 hours the pads shall be removed and the areas compared for irritation.

TABLE I.—COMPOSITION

	Per cent by weight	
	Max.	*Min.*
Anhydrous, salt-free, soda soap	—	30
Anhydrous, salt-free, synthetic detergent	—	20
Moisture and matter volatile at 105° C	25	—
Free alkali, calculated as sodium hydroxide (NaOH)	0.1	—
Matter insoluble in distilled water	0.3	—
Rosin	4.0	—
Sugar	None	—
Sodium sulphate, sodium chloride, and other neutral inorganic salts	Balance	

PERFUMING MATERIALS . . .

Perfuming problems of a world at war and what the industry has done and is doing to solve them

Waldo F. Reis
van Ameringen-Haebler, Inc.

IN time of war, experience shows that people rise above themselves and achieve results which in normal times would be considered impossible. It has been said, because of the progress we have already made since the war, that in this country, particularly in technological advances, we are living in the year 1960. Certainly the progress that has been made in the field of perfuming materials has kept step with other technical achievements. In normal times, the perfuming materials industry in this country gathers its products from almost every part of the world. This fact seems to come as a great surprise to the layman who has a very definite idea that perfume materials have always been almost wholly imported from France. During these troubled years, our perfumers have, from necessity, learned a great deal of geography and have tried to study world events in an effort to anticipate any movements that would affect their raw materials.

At the beginning of this second world war, prices of perfume materials were abnormally low and stocks in this country were undoubtedly abnormally high. For these reasons, prices advanced quite gradually and stocks of those materials which were cut off at the advent of the war were not depleted as quickly as they otherwise would have been. In order to appreciate fully the problems of the perfume industry that have arisen because of the war, let us consider in chronological order the sweeping blows that have been struck at the perfumers' raw materials.

With Italy's entrance into the war, all Italian imports were cut off from this country, the important perfume materials being the various orris products, civet from Ethiopia and the citrus oils, — bergamot, lemon and orange. The two latter oils, even before this war, had been almost completely replaced in the United States by domestic lemon and orange, and since the war, the domestic oils have very admirably taken the place completely of the Italian products.

Bergamot oil is a very good example of the current war problems of the perfumer and a very good example of the resourcefulness of the American perfume chemist. In bergamot, we have an oil which has been universally used in all types of perfume bouquets for its brilliance, its smooth quality and its richness. Before this war, every perfumer had an artificial bergamot to fall back on in those cases where a bergamot character was desired, but where price considerations would not allow the use of the pure oil. These artificial bergamots were mostly cheap and crude editions of the real thing. With bergamot no longer available, the perfumer was faced with a challenge which had to be met. With the assistance of a great deal of chemical analysis and chemical synthesis, artificial bergamot oils have

been developed which are extremely good duplications of the natural oil. In finished perfume bouquets, whether they are used for fine handkerchief perfumes, colognes, powders, soaps, creams or any other toilet preparations, artificial bergamots are now substituted for bergamot oil without any material depreciation of quality. Thus, soon after the famous "stab in the back," bergamot oil ceased to be a problem.

The other important Italian product,—orris root,—has given us a lot of difficulty. Since the beginning of the war, orris concrete has advanced from $47 to $450 per lb. While there are available many good synthetic orris products which can and do satisfactorily replace natural orris in many bouquets, it is true that in those cases where the orris character is an integral part of the perfume, no substitute is as satisfactory as real orris. In many instances, however, (and this is particularly true in the case of soap perfumes) artificial orris compounds have been developed which are even superior in effect to the natural product.

Natural civet, which is a product of Ethiopia, increased ten fold to $35 per ounce during the time that this unfortunate country was controlled by Italy. During that period, very little civet came into the United States. Since England's successes in Ethiopia, stocks of civet have begun to arrive here and the price has decreased to about $15 per ounce. Largely because of chemical research and the subsequent development of important civet-like chemicals, the perfumers have been able to produce excellent artificial civet compounds. The use of these artificial civet products has increased greatly during the last two years.

With the collapse of France, our imports of the French flower oils ceased abruptly. The most important of these oils are jasmin absolute, rose absolute, tuberose absolute, orange absolute, oil of neroly petals and lavender oil. Here again, the perfume materials industry can point with pride to its achievements in the development of substitutes for these oils. Spurred by necessity, the perfume chemist has produced artificial flower oils which are infinitely superior to those which had been made prior to the beginning of the war. It must, of course, be understood that as good as these artificial substitutes are, they are still not as rich as the natural oils. However, the synthetic products have contributed very greatly in extending the supply of the flower oils in those cases where such a substitution has not interfered with the quality of the finished product.

IT must not be supposed that because of the supplies of these floral oils were cut off that stocks were depleted immediately. In the case of most of these raw materials, stocks in this country were sufficiently large to take care of requirements for several months and in some cases for several years. Then too, the supply has been augmented from time to time by shipments from other sources. In the case of jasmin absolute, for instance, considerable absolute has come in since the collapse of France and fairly large consignments of jasmin concrete have come in from Egypt and Palestine.

Imports of perfume materials from the French colonies also were stopped by the war. These include geranium African from Algeria, geranium Bourbon, ylang Bourbon, vetivert Bourbon, and Bourbon vanilla beans from Madagascar and the Island of Reunion. Since that time, shipments of these products have trickled in, but only in unimportant quantities. Morocco, for some years had been the source of orange African and small amounts of certain floral oils.

The drying up of the supply of Bourbon oils was a very definite challenge to the perfumer's skill. Geranium Bourbon, which is one of the most valuable of perfume materials, is used universally as such and is the source for rhodinol and rhodinol esters. As far as rhodinol is concerned, while many good substitutes are available and are useful in perfume bouquets, the perfumer will be pleased when he can again use real rhodinol without being parsimonious.

The development of very excellent artificial geranium Bourbon oils has in many cases satisfactorily replaced geranium Bourbon. Since the greatest use for geranium Bourbon has been in soap perfumes, the greatest use of artificial geranium Bourbon has also been in soap perfumes. Instrumental in the development of good artificial geranium oils have been the stocks of rhodinol by-products which the rhodinol manufacturers had available. The development of artificial ylangs is another accomplishment of which the perfume industry may well be proud. It is a further example of "necessity being the mother of invention." Here again, the perfumer has been immeasurably helped by the achievements of the aromatic chemists.

Here it might be well to take up these two oils,—geranium Bourbon and ylang Bourbon, — in connection with the perfuming of soap. In the development of handkerchief perfumes, the perfumer can reasonably expect to get out of his perfume, just what he has put into it. In other words, the medium for the finished perfume in this instance, alcohol, has not had much effect on the odor of the bouquet. This is not true in the case of soap perfumes. The finest perfume made may not be as good in soap as a properly designed soap perfume costing one-tenth of the price. The soap perfumer must know the effect of the soap upon the individual perfume materials, as well as the effect of the perfume materials upon the soap. Also, and this is important, he must know these facts in relation to the soap he intends to perfume. The degree of alkalinity, the percentage of anhydrous soap, the water content, the percentage of unsaponified and unsaponifiable fat, the presence of fillers, the stock used, the color desired in the finished soap, the effectiveness of stabilization or preservation,—all of these factors should be known and understood before the perfumer can successfully perfume any particular soap. Without this knowledge, the perfumer plods through a strange and unfamiliar jungle where serious errors are inevitable.

In geranium Bourbon and ylang Bourbon, we have two perfume materials which exemplify this point. Geranium Bourbon is one of the most sat-

isfactory perfume materials to add to soap. Although it is appreciably better in high quality soap, it takes a very poor grade of soap to spoil its richness and quality. Ylang, on the other hand, is a delicate perfume material. Its odor effect in soap, unless conditions are ideal, is usually disappointing. Some cleverly designed artificial ylang oils actually give better results in soap than does natural ylang oil, with a considerable saving in cost.

The capitulation of Yugoslavia and the complete domination of Bulgaria by the Axis powers stopped all imports of Yugoslavian oak moss and Bulgarian otto of rose. Fortunately stocks of the latter were large. Considerable supplies of oak moss have been coming in from Spanish ports, and domestic oak moss has also helped the situation. Artificial oak moss products are good and are being largely used in soap perfumes, as well as in other perfume bouquets.

UNTIL the entry of Japan into this war, most of the products from China and Japan had been coming in fairly regularly. The major Japanese perfume materials are ho oil, gum camphor and the various camphor oils, and natural menthol from Japanese peppermint oil. The lack of these oils has given us very little trouble. Ho oil is easily replaced by bois de rose, synthetic camphor oils are excellent and the safrol bearing oils from Brazil have replaced the safrol bearing Japanese camphor oils. Domestic peppermint oil and synthetic menthol have replaced Japanese menthol.

The chief Chinese perfume imports have been anise oil and cassia and Tonquin musk from Tibet. These products are still available but shipments are scarce and prices have skyrocketed. Anethol has in many cases replaced anise oil, and cinnamic aldehyde has to some extent taken the place of oil of cassia. As far as Tonquin musk is concerned, imports seem to have dried up completely. Since Tonquin musk tincture is usually aged for at least a year, the pinch here will not be felt for some time.

It is no exaggeration to state that the fall of the Dutch East Indies was as severe a blow to the perfume industry as it was to the rubber industry. The Dutch East Indies were a source of some of the most important raw materials used by perfumers,—citronella Java, cananga Java, vetivert Java and patchouly. Citronella Java has been used as such in tremendous quantities in this country and also has been the source of geraniol and its esters, citronellol and its esters, as well as hydroxycitronellal and artificial menthol. These isolates are still available but stocks must necessarily be husbanded. The future position on these items does not appear to be too rosy. Based chiefly on by-products from the manufacture of these isolates, excellent substitutes for citronella Java are now filling in the breach. Citronella Java is now being produced in the Western Hemisphere, but thus far not in important amounts.

The chief use of cananga Java has been in soap perfumes. The perfume industry has really "gone to town" in creating substitutes for cananga Java which, particularly in soap, are certainly as good, and very often better, than the natural product,—and these substitutes usually cost the soap perfumers about one-fourth the present price of cananga oil.

Patchouly and vetivert Java are still available. The price of vetivert Java, lately as high as $60 per pound, is quite prohibitive except for the finest perfumes. Vetivert has recently been produced in this hemisphere and this source will undoubtedly tend to ease the situation.

Largely because of the lack of shipping space, oils from the countries now not held by the Axis powers have given us more or less trouble. The Australian oils, the most important being eucalyptus, have not been too difficult. Citronella from Ceylon and geranium palma rosa, sandalwood and lemongrass from India have been "on again, off again." At the present moment, supplies are available for import. The domestic and Guatemalan production of lemongrass oil is increasing rapidly to the point where it is becoming an important factor in the lemongrass picture.

The Spanish perfume materials such as gum labdanum and oils of rosemary, thyme, spike lavender and sage have for the most part reached us in fairly satisfactory quantities. This is also true of the South American oils,—the most important of which are petitgrain, styrax, bois de rose, guiac wood, copaiba, and balsam peru and balsam tolu.

The pine products, — Siberian pine needle oil and the various Tyrolean pine oils have been largely replaced by domestic oils. Spruce oil, fir balsam oil from Maine and more recently fir oil from Canada, have very satisfactorily taken the place of the unobtainable Tyrolean pine oils and the high priced Siberian pine needle oil.

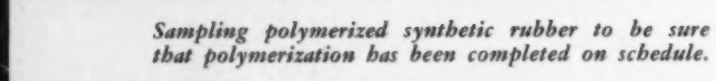
It has been indeed fortunate that in this country we have had a large essential oil producing industry for many years. Important American oils are peppermint, cedarwood, spruce, spearmint, lemon, orange, grapefruit, wormwood and wormseed. Considerable development work is now in progress with the end in view of the production of other perfume materials in this hemisphere.

UP to this point, we have only considered essential oils and other natural perfume materials and the isolates made from these materials. Now, let us consider aromatic chemicals. The first World War caught the United States without a real aromatic chemical industry. Practically all aromatic chemicals were imported and as a result prices went sky-high. Many aromatic materials were unavailable at any price and radical changes had to be made in perfume bouquets. At the beginning of this second World War, on the other hand, our aromatic chemical industry was extremely well developed. We had the skill and the equipment to manufacture any aromatic chemical that was needed, and in any quantities.

However, since the start of this war, the manufacturers of aromatic chemicals have had to contend with tremendous restrictions and other difficulties. We have been smothered in a world of allocations, priorities, limita-

(*Turn to Page 74*)

Sampling polymerized synthetic rubber to be sure that polymerization has been completed on schedule.



Washing the rubber "curd" by agitating it is shown in vat above. Below—Butadiene and other ingredients are polymerized in these steel autoclaves.

SOAP

IN addition to the already large-scale contribution to the war effort which the soap industry is making in the production of glycerine, soap for military hygiene and a hundred other lesser known industrial uses, quite another part is being played, equally important though not quite so well known or on such a large scale,—yet. In fact, this secondary, (from the standpoint of size) contribution seems so remote from the field with which soap is most commonly associated that it is hard to see any connection at all. Yet, there is a definite affinity that is just as valuable to the war effort as to the success of the project with which it is so intimately linked.

The project? Synthetic rubber. Soap plays an important part in the production of synthetic rubber. Taking the soap industry as a whole, producing more than three billion pounds of soap a year, and placing next to it the annual figure of 100,000,000 pounds of soap that is needed to go into the manufacture of synthetic rubber, this three per cent of the total volume is comparatively insignificant. This is apart from its value as a weapon of war. However, a more accurate estimate of the hundred million pound figure is gained by rightfully separating it from the overall figure and placing it in its proper industrial category. There it looms large.

In order to gain a true appreciation of the qualitative value of the soap in this connection, it is well to stop for a moment and consider the importance of rubber. In *Rationed*

Below—Blocks of synthetic rubber, each weighing about 110 pounds, are cut up or broken into small pieces and sheeted on a wash mill.

in the RUBBER CRISIS

Synthetic rubber calls for the use of 100,000,000 pounds of tallow chip soap yearly in butadiene manufacture

Rubber, published by Alfred A. Knopf, 1942, Williams Haynes and Ernest A. Hauser sum up rubber's place in our lives thus: "Our telephone, the oil burner in the cellar, the typewriter at the office, and the ice-less refrigerator, the vacuum cleaner, the washing machine, are all useless, impossible, nonexistent without rubber. There can be no electric current without rubber. The wheels of industry are turned by rubber belting, and if we were to go back to leather, there are not nearly enough hides to go 'round. We have ripped the car tracks out of our city streets; turned the urban's right of way into a highway; let the rails rust and the ballast wash out on miles of branch railroad, relying upon rubber-borne transportation. We have moved our homes and changed our mode of life trusting to rubber. We cannot even play golf or tennis without rubber balls. It is a fantastic nightmare to dream of a world without this bouncing, stretching, waterproof servant of our civilization."

Thus, it is apparent that the Baruch report was not given to understatement when it was quoted as saying: " . . . the situation is so dangerous that unless corrective measures are taken immediately this country will face both a military and civilian collapse." Back of this harsh truth lies the fact that the United States had a stock pile of 578,000 tons of crude rubber on July 1, 1942; required 910,000 tons for military and other war needs including Lend-Lease; and in 1942 had practically no imports. In figuring needs, no allowance is made for civilian requirements, which had amounted to 631,000 tons in 1939. In order to bridge this gap, there is apparently only one solution, — synthetic rubber. Fortunately, experimentation and advances in synthetic rubber manufacture had gone on for many years prior to the threat to our natural rubber supply. The cheapness of the natural product has for years given it an economic advantage that has been impossible for the synthetic to overcome. Today, the synthetic rubber industry has advanced to the point where it is estimated that by the end of 1943, we will be producing 1,100,000 tons annually.

TO the end that we attain the production goal set up by the Baruch Committee, the Rubber Reserve Company has issued soap and fatty acid specifications for the 100,000,000 pounds of soap needed. The revised specifications of September 3, 1942 state that they were drawn up with the intent of "defining the composition of the soap and fatty acid used as emulsifier in the manufacture of syn-

Below—Squeezing the lumpy material into thin sheets is the final step before the sheets are cut to standard size and dried.

Below—Here the sheets are inspected after emerging from a milling operation. This is the slitting machine which cuts the rubber into long ribbons.

Photos by B. F. Goodrich Co. and Standard Oil Co., N. J.

Photo Standard Oil Co., N. J.

The crude rubber mass ready to be cured and processed, comes from a filter where brine, water and soap are removed. Opposite page—Dried synthetic rubber at left and dried natural rubber at right.

thetic rubber. The form in which the emulsifier is to be introduced into the manufacturing process is as a soap solution and this specification is not intended to limit the method of making this solution except as hereinafter noted. The fatty acid composition of the emulsifier used in making the soap solution is to be identical for either soap or fatty acid purchased as such."

The specifications as given by the Rubber Reserve Company are shown in the tables on this page.

I. LIMITS OF FATTY ACID COMPOSITION

a. Iodine number	48 max.	Test Method #34 (ASTM D460-41)	
b. Thiocyanogen number		Test Method #38	
c. Iodine number minus thiocyanogen number shall not exceed a value of 6.			
d. Insoluble bromide test	Negative	Test Method #41	
e. Saturated acid below C_{12}	1.0% max.	Product must carry a producer's guarantee that these limits are fulfilled.	
Unsaturated acid below C_{18}	2.0% max.		
Saturated acid above C_{18}	5.0% max.		

II. SOAP (as purchased)

In addition to the limits imposed under (I) the following specification limits shall be applied to soap as purchased.

a. Moisture 10.0% max. Test Method #30*

The following limitations on an anhydrous basis comprise the Specification limits for soap but to conform to ASTM methods and standard soap-makers practice corresponding values on a 10% moisture content basis are included to simplify producer-purchaser negotiations.

	Anhydrous (Soap Basis)	10% Moisture (Content Basis)	
b. Alcohol insoluble	2.5% max.	2.25% max.	Test Method #31*
c. Water insoluble	0.8% max.	0.72% max.	Test Method #32*
d. Free alkali	0.1% max.	0.09% max.	Test Method #33*
e. Free acid (as oleic)	0.2% max.	0.18% max.	Test Method #33*
f. Glycerol	1.0% max.	0.9% max.	Test Method #37*
g. Sodium silicate	0.5% min.	0.45% min.	Test Method #36*
	1.0% max.	0.9% max.	
h. Mn	2 ppm		Test Method #39**
i. Cu	10 ppm		Test Method #39**
j. Fe	30 ppm		Test Method #39**
k. Titer of fatty acid in soap	40 min.		Test Method #35*
	55 max.		
l. Added inhibitors/none other than silicate			
m. Unsaponifiable matter	1.5% max.	1.35% max.	Test Method #40

* ASTM D460-41 ** ASTM D297-41-T

III. FATTY ACID (as purchased)

In addition to the limits imposed under (I) the following specification limits shall be applied to fatty acids as purchased.

a. Titer 50 min. Test Method #35*
55 max.

b. Amount of glycerol and metallic contaminents shall be within the same limitations as noted in II for soap.

c. Alkali insoluble 0.8% max. Test Method #40

d. Added inhibitor—none

IV. POLYMERIZATION TEST

Each lot of soap or fatty acid must carry a producer's guarantee of uniformity and samples from each lot must pass polymerization tests as to polymerization rate and product quality.

V. Sampling basis of purchase, and other general requirements to be as established by ASTM D460-41 and ASTM D496-41.

VI. SHIPPING CONTAINERS

Containers used are to be the result of mutual agreement between seller and buyer and subject to conformity to any issued specification by Rubber Reserve Company.

Reaction to the contract specifications on the part of soap makers was favorable with the exception of the iodine number. And this exception was based primarily on the fact that such a low iodine number was specified. This means the withdrawal of the highest grade of the only available fat for industrial purposes at a time when ordinary sources of fats and oils are restricted. However, if it is absolutely essential to the successful production of synthetic rubber, then the objection is withheld. But, if it is

possible to produce the rubber without such a high quality soap, then the industry would appreciate a change in this particular specification. Besides, this rules out Eastern tallow when a large quantity is needed. Letters pointing out this situation have been sent to Rubber Reserve Company in Washington and to members in Akron, Ohio. If the iodine number should be raised to permit the use of Eastern tallow, the quality of the synthetic rubber will not be adversely affected. In fact, some has already been produced using the Eastern tallow soap chip. Probably much of it has gone into the thousands of tires already manufactured from synthetic rubber by B. F. Goodrich Company, Akron, Ohio, for use by the armed forces of the United States.

However, on the other hand, by using babassu, coconut or palm kernel oils the iodine number could be lowered. This solution has only one drawback,—the bad feature of requiring oils whose main tonnage sources of supply has been cut off, which consequently has made them extremely scarce.

JUST how is the soap used in the manufacture of synthetic rubber and also in the rubber reclamation operation? As was mentioned earlier, soap is used as an emulsifier in the manufacture of synthetic rubber. How each rubber maker uses it, is, of course, his own trade secret. However, the basic principles involved are not a secret and with particular variations are used by all manufacturers.

In several different connections, soap can and is being used as a wetting, dispersing, stabilizing and lubricating agent. Essentially, the soap is employed as a wetting agent to form an emulsion prior to polymerization. Its two-fold advantage is its cheapness and ready availability. Briefly, the elements going into the manufacture of synthetic rubber, say of the butadiene type, using styrene, methacrylate, etc., are emulsified in soapy water. The mixture is placed in a large sealed steel kettle-like mixer and heated under pressure. The resulting emulsion is polymerized to form a latex-like liquid similar to that which exudes from the natural rubber tree. The thick white resultant mass is solidified by acetic acid which causes a curd-like material not unlike that found in sour milk. The coagulated synthetic latex is washed, dehydrated under pressure and ready for conversion to whatever use natural rubber would be put.

Before going on to another phase of soap's part in the process, it is to be noted that since most of the synthetic rubber to be produced in the current program will be of the butadiene type, as described above, soap's role is of extreme importance. The B. F. Goodrich "Ameripol" synthetic tire which was mentioned earlier is of the butadiene variety. And, incidentally, in advertising which appeared recently in one of the national weekly magazines, a synthetic rubber tire was reported to have gone 35,377 miles before being required to be recapped.

Besides another important function of soap as a lubricant to prevent rubber from sticking to molds, soap is an able assistant in the reclamation of used rubber. As in the synthesis of artificial rubber, there are many ways in which the soap is applied in the reclamation operation. In general, the recovered rubber is ground up and dispersed in water by means of a soap. This forms an artificial latex which can be used much like natural and synthetic latices. Since we shall have to rely largely on the use of reclaimed rubber for the next six months, possibly more, for the synthetic rubber production program to show results, it is difficult to overestimate soap's contribution in the processing of the 400,000 tons of scrap rubber collected last summer which will yield an estimated 300,000 tons of reclaimed rubber. The fact that reclaiming operations are being stepped up to the fullest extent all along the production front and that house to house drives for rubber are being instituted in all parts of the country at the present time serve only to emphasize the nation's need for rubber. Soap is a key factor in fulfilling that need.

Photo B. F. Goodrich Co.

New Products

...

Something new at O-Cedar Corp., Chicago, is General Cleaner. It's a non-inflammable liquid for cleaning all painted and glazed surfaces.

Another example of Tre-Jur's, New York, successful line of soap sculptures in new and different interesting packages is "In The Doghouse." The hydrant is made of soap, too. Package retails at 59c.

Formula 626 Service Soap, a special lathering bath soap for men in the armed forces is being introduced by Lightfoot Schultz Co., New York. Six jumbo cakes to the box bear military insigna, retail, for $1.

and Packages

F. W. Fitch Co., Des Moines, Iowa, is now putting up its shaving cream in 3½ and 8 oz. glass jars, a war conservation measure.

Fleecy White bleach, a product of John Puhl Products Co., Chicago, now is being sold in 32 and 64-ounce amber bottles which are closed with white coated vent caps.

S. C. Johnson & Son, Inc., Racine, Wis., is packaging these three of its products in glass. Small closures facilitate pouring. Directions on Cream Wax are applied color lettering claimed not to wear off.

RAW MATERIALS

FOR THE SOAP AND ALLIED INDUSTRIES

ANIMAL OILS, FATS, CHEMICALS, VEGETABLE OILS

DRUMS — TANK CARS — TANK WAGONS

COCOANUT OIL

CAUSTIC POTASH

STEARIC ACID

CAUSTIC SODA

RED OIL

TALLOW

Every raw material necessary for the manufacture of soap and allied products is carried in stock and is available at the right price for immediate delivery to your door.

PALMITIC ACID
90-95% Pure White, High Melting Point

GLISYN
Inquiries solicited on this low price glycerine replacement.

ALCOHOL
AMMONIA
BLEACHING POWDER
BORAX
BICARBONATE OF SODA
CARBON TETRACHLORIDE
CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBER'S SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROSIN
SALAD OIL
SOYA BEAN OIL
SESAME OIL
TEASEED OIL
WHITE OLEINE
FATTY ACID
STEARINE
STEARIC ACID
GREASE
TALLOW

Telephone: MOrsemere 6-4870. Direct New York Tel.: CHickering 4-7533.
Members New York Produce Exchange.

iEi

EASTERN INDUSTRIES, INC.
RIDGEFIELD, N. J.

NEWS

Export Soap A Luxury

The War Shipping Administration recently issued an announcement stating that soaps and toilet preparations are to be considered luxuries and will not be given war risk coverage at non-compensatory rates. Effective fifteen days after October 22, 1942, all Warship open cargo policies covering shipments of soap, toilet preparations, etc., will be cancelled.

Schuster Gets Commission

Monroe C. Schuster, sales representative for Morny soaps, Revillon perfumes and Knize Ten toiletries for the past ten years, has just been commissioned a first lieutenant in the U. S. Army Air Force. He served with this branch of the service in the last war. Lieutenant Schuster expects to be stationed in Miami, Florida, for six weeks, and from there will probably be sent to Maxwell Field, Alabama.

Form Potash Soap Group

At a meeting of the Industry Committee for Potash and Liquid Soap held in the Commodore Hotel, New York, on October 8, it was announced that the first formal meeting of the Potash and Liquid Soap division of the Association of American Soap and Glycerine Producers would be held the morning of January 14, 1943, at the Hotel Waldorf-Astoria, New York, preceding the regular annual meeting of the Association.

The idea of a separate division to function within the Association is the outgrowth of industry meetings in Chicago and New York on September 23 and 25, 1941, attended by 32 potash soap makers. They appointed an Industry Committee of seven and requested it to express on their behalf a desire that the Board of Directors of the Association recognize them as a separate division within the Association, as provided for in Article I of the by-laws. R. H. Young, of Davies Young Soap Co., as chairman of the

R. H. YOUNG

Industry Committee presented the request. It was approved by the Board of Directors on December 4, 1941, at a meeting held in the Hotel Biltmore, New York.

At the October 8, 1942, meeting, seventeen potash soapers, members of the Industry Committee, appointed a chairman, R. H. Young; a vice-chairman, Herbert Kranich, Kranich Soap Co.; and a secretary, A. P. Federline to head the committee preparatory to the election of officers in January. Another committee, composed of Messrs. Kranich; Walsh; Rochester Germicide Co.; Galvin, Armour & Co.; Oppenheimer, West Disinfecting Co.; was formed to decide on recommendations, discuss by-laws, decide on eligibility and consider nominations.

Blue Suds Co. Moves

Blue Suds Co., maker of starch tablets, is now located in the American Storage Building at 1778 West Fort Street, Detroit. Office and warehouse are located at the new address.

TGA Convention May 4-5

L. R. Root, Scovill Mfg. Co., was recently appointed chairman of the convention committee of the Toilet Goods Association, which is scheduled to meet May 4 and 5, 1943 in New York. As convention committee chairman, Mr. Root has been designated to select members of the committee.

Oakite Exhibits at Meat Show

Oakite Products, Inc., New York, exhibited cleaning products for meat packers at the American Meat Institute's convention in Chicago last month. Jack Hayes, Chicago district service representative, explained the company's system for conserving processing and handling equipment and distributed a booklet on "Sanitation Procedure in Meat Packing and Sausage Plants."

Soap Men Address Druggists

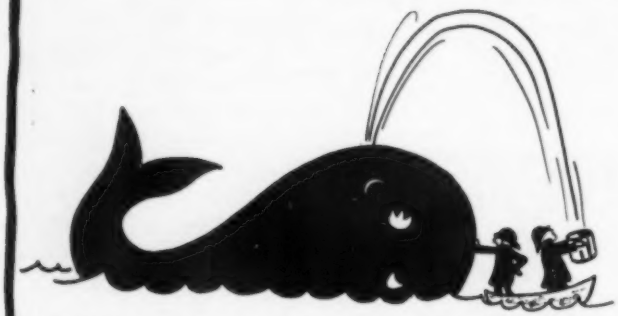
Executives of Colgate-Palmolive-Peet Co. participated in the program of the National Association of Retail Druggists at their Chicago Convention in October. Walter W. McKee, sales manager at Jersey City, talked on the topic "Always On Top—Shampoos and Hair Preparations," while Phil Kalech, divisional sales manager in Chicago, discussed "Shaving Preparations for Sales Volume and Building Business By Selling Soap."

Packaging, Grocery Mfrs. Meet

Two conventions of particular interest to the soap maker that take place in November are the meeting of The Packing Institute at the Hotel New Yorker, Nov. 5 and 6, and the Grocery Manufacturers of America, which meets at the Waldorf-Astoria, New York, Nov. 18, 19 and 20.

REMEMBER?

10 YEARS AGO



WHALE OIL PRICES HIT BOTTOM— NORWEGIAN PRODUCER SOLD IT AT 1½¢ PER POUND

CASTILE SOAP CASE ARRIVED ON THE DOORSTEP OF THE U.S. SUPREME COURT BY AN F.T.C. PETITION FOR A REVIEW

TO RELIEVE BREADLINES AND UNEMPLOYMENT, R.C. EDLUND, MGR., AMER. SOAP & GLYCERINE PRODUCERS, URGED A "SHARE-THE-WORK" PLAN

RALPH R. ROGAN, P. & G. SECRETARY AND ADMANAGER, WAS ELECTED A DIRECTOR

NEW EDGEWATER, N.J. PLANT OF LEVER BROTHERS WAS NEARING COMPLETION

PROCTER & GAMBLE GETS IN LINE WITH LEVER BROS. AND COLGATE, PALMOLIVE, PEET WITH A 5-DAY WEEK TO LOWER PRODUCTION AND SPREAD THE WORK AMONG MORE FAMILIES

☒ ROSCOE C. EDLUND ELECTED PRESIDENT OF AMERICAN TRADE ASSN. EXECUTIVES

SOAP FROM CACTUS WAS A PROJECT OF SOUTHWESTERN CACTI PRODUCTS CO., ARIZONA

Set More Fat & Oil Prices

SPECIFIC dollars and cents prices have been established on wool grease, raw soap stocks, recovered or acidulated soap stocks, distilled fatty acids and stearic and oleic acids, the Office of Price Administration announced October 11. The new specific ceilings found in Amendment 11 on wool grease and Amendment 12 on the other products represent the average of previous ceilings. These previous ceilings were determined on one of two dates: Under Revised Price Schedule No. 53 (Fats and Oils), these articles were frozen at October 1, 1941 prices, or 111 per cent of November 26, 1941, whichever was higher. Both the new amendments were effective October 16, 1942.

This latest O.P.A. move follows the general policy of eventually replacing ceiling prices for 125 major fats and oils, initially established by the freeze technique, with specific industry wide maximums. This previously had been done in cottonseed, corn, and peanut oil, and many other fats and oils.

Specific ceiling on crude dry centrifugal wool grease, has been set at 20 cents per pound for carlots f.o.b. producer's plant in returnable drums. This reflects the average price on the freeze dates.

It is hoped the new amendment which sets a uniform price will eliminate many of the inequalities that existed under the freeze technique. They were due, in the main, to differences in inventory or raw material buying policies of the various wool grease merchandisers. Ceiling prices are also set on other grades and varieties of wool grease.

The new maximums are established in Amendment 12 for such raw soap stocks as cottonseed foots, corn foots, and soybean foots. Cottonseed foots usually sell at 50 per cent of the price of acidulated cottonseed foots, less ¼ cent a pound. Adoption of this normal differential resulted in the maximum price of 3½ cents per pound, delivered midwest, for cottonseed foots. A ⅛ cent higher price for cottonseed foots delivered in the east, covered the normal freight differential. Corn foots and soybean foots, which usually sell ⅛ cent lower than cottonseed foots, thus are provided ceilings of 3⅜ cents per pound midwest, and 3½ cents, delivered in the east.

Ceiling on tallow fatty acids, delivered in tank cars in the east, is set at 12 cents per pound. This reflects the average price under the squeeze technique. Ceilings on cottonseed fatty acids of 11¾ cents per pound for double distilled grade and 11¼ cents for single distilled are similarly computed.

No sales of undistilled, distilled or triple distilled coconut fatty acids were made on previous freeze dates. Therefore, the ceilings of 13⅜ cents for distilled in carload lots, 15½ cents for distilled in returnable drums or non-returnable packages and 16¾ for triple distilled coconut fatty acids in returnable drums, or non-returnable packages reflect sales made at the period nearest to those freeze dates.

Maximums on soybean fatty acids from foots, soybean fatty acids from crude, corn fatty acids and peanut fatty acids are based on studies made by the O.P.A. In each case, the producer has been allowed average actual costs, plus ¾-cent per pound margin.

Ceiling price 15⅞ cents per pound for double pressed stearic acid, delivered east of the Rockies in carloads in bags is approximately the average maximum under previous ceilings. Single pressed stearic acid ceiling is set at the usual ½-cent discount under double-pressed. On triple-pressed stearic acid, the usual 2¾-cent premium over double-pressed results in a ceiling of 18⅝ cents, east of the Rockies.

Oleic ceilings are set at approximately the average at which most sellers did business during the freeze dates.

Maximums set for commodities under Amendment 12 shipped in returnable drums or non-returnable packages have been based on the ¾-cent per pound premium over the tank car price. Furthermore since distilled fatty acids—previously not sold in any quantities in Texas and Oklahoma—now will be merchandised in those two states in considerable volume because synthetic rubber plants have been set up there, delivered prices for these states are set. Such ceilings are ½-cent per pound over eastern prices on all the articles. California prices are based on a 1-cent premium over eastern prices.

—— • ——

F.T.C. Bans Watkin's Slogan

R. L. Watkins Co., New York and Newark, N. J., manufacturer and distributor of cosmetics and Dr. Lyon's Tooth Powder, has been ordered by the Federal Trade Commission to stop reported misrepresentation of its dentifrice product. The F.T.C. wants Watkins to refrain from using in advertising the theme "Do As Your Dentist Does—Use Powder" or similar statements of similar meaning; or advertising claims that the product is similar to powder used by dentists. Another claim the F.T.C. ordered stopped is that the product is an effective antacid; that it will correct "acid mouth"; or that it is free from grit and can't injure or scratch tooth enamel.

—— • ——

New Savogran Soapless Cleaner

Savogran Co., Boston, has introduced a new "soapless soap" cleaner for use on floors. One pound of the powder makes approximately forty gallons of solution and dissolves equally well in hot or cold, hard or soft, fresh or salt water, according to company claims. It is recommended for painted or varnished surfaces, also for dishes, glass, silverware and kitchen utensils.

—— • ——

Manhattan Offers Book

Manhattan Soap Co., New York, is offering a combination World Publishing Webster's Dictionary, world atlas and reference book for three wrappers of "Sweetheart" Soap and 15 cents.

RELIABLE PQ SILICATES OF SODA

MAYBE you know already what PQ Quality means to uninterrupted production because your plant is now using a PQ Silicate. But if you have never worked with PQ and are today studying a product or a process which might involve a soluble silicate, it is a good time to get acquainted.

First, get fresh samples of silicate—samples of uniform quality that are based on high standards scrupulously watched. Our analysts go into partnership with the manufacturing crew on quality from raw materials through the plant to the shipping floor. All this is for just one purpose—that so far as PQ Silicate is concerned your plant results may be comparable to your laboratory experiments.

Are you investigating a new product or process? Know how PQ Silicates can serve as adhesives, detergents, colloids, coagulating agents. In a recent issue* of our house organ *Silicate P's & Q's* no fewer than nine new patents were reviewed which specified a soluble silicate. **Copy on request*

PHILADELPHIA QUARTZ CO.

Established 1831 General Offices and Laboratory: 125 S. Third Street, Philadelphia, Pa.
Chicago Sales Office: Engineering Bldg. Sold in Canada by National Silicates Ltd., Toronto, Ont.

Chemists Elect Trevithick

New officers and directors announced at the annual meeting of the Association of Consulting Chemists &

H. P. TREVITHICK

Chemical Engineers, at The Chemists' Club, New York, on October 27, 1942 include: President H. P. Trevithick, of the N. Y. Produce Exchange; Vice-President Albert Parsons Sachs, 314 W. 100 St., New York; Secretary Henry M. Shields, Mid-Town Coal Labs., Treasurer Wm. C. Bowden, Jr., Ledoux & Co.

Revise Soap Fat Quotas

Several important changes in the basis of allocating fats for use by soap manufacturers were included in amendment No. 1 to general preference order M-71, issued October 27 by the War Production Board. Under the amended order soapmakers are allowed to use only 88 per cent of the quantities of fats and oils consumed in the base period. This is a change from the consumption figure of 90 per cent allowed in the original order. However, the net effect of the amendment will probably be to increase rather than to decrease the quantities of fats and oils available for soap use, as under the new set-up, fats and oils used to make soap for delivery to the Army and Navy are excluded in figuring permitted quotas.

One purpose behind the amendment was believed to be the facilitation of supplies of soap for the Army and Navy. Under the original order it was not attractive for soapmakers to bid on Army and Navy requirements as sales to the armed forces used up substantial quantities of permitted quotas. With amounts of fats used for Army and Navy orders exempted, this situation is now avoided.

Under the amended order more liberal quotas are also allowed in the manufacture of soap from foots made from domestic oils or their fatty acids. The amendment increases from 119 per cent to 150 per cent the allowable consumption of foots as compared with the base period.

Gillam Soap Works Burn

Gillam Soap Works, Fort Worth, Texas, were destroyed recently in a $60,000 fire. Cause of the blaze was not immediately determined, although both the owner, E. O. Gillam, and Fire Marshal Lignon thought it was caused in some way by the boilers.

Soap Wages High Enough

A request for higher wages for 1,750 employees of Lever Brothers Company at the Cambridge and Edgewater, N. J. plants was turned down last month in a decision by the War Labor Board. The appeal for higher wages had been made by the United Soap, Glycerin and Edible Oils Workers Union No. 22050, being turned over to the WLB for decision following inability of the State Conciliation Board to reach a satisfactory solution. The decision of the WLB was that any increase in wages for Lever's soap workers was unjustifiable in view of the high level of the wages already being paid. Employees had asked for a general increase of ten cents an hour.

Armour Strike Averted

A threatened strike of more than 350 employees of Armour Soap Works, North Bergen, N. J., was averted October 26, when the case was certified to the War Labor Relations Board for consideration by a panel of the board. The employees sought a wage increase of 15 cents an hour, bringing their pay rate to 87 cents an hour, which prevails at other soap plants in the state according to a union spokesman. Negotiations have been going on since April.

Wilson Heads Soap Unit

E. W. Wilson, who has been serving since July as principal industrial consultant and co-chief of the

E. W. WILSON

Soap and Glycerine Unit of the War Production Board, has just taken over the full-time job of directing the activities of the unit, releasing George A. Wrisley from all but consulting and advisory duties. Over recent months the two men have been spending alternate weeks in Washington, but Mr. Wilson will now be on full time duty. Before taking on his WPB post Mr. Wilson was assistant general manager of Armour Soap Works, Chicago.

Set Higher Prices for Soap

Maximum prices for 100 products, including household soaps, cleansers and detergents were set at higher levels by the OPA in a ruling announced late last month to relieve some 54 wholesalers whose maximum prices were below those of manufacturers. This revision, effective Nov. 5, was made under Amendment 46 to Supplementary Regulation 14 under GMPR.

Edlund Talks on Salvage

The Fats Salvage Campaign sponsored by the Association of American Soap & Glycerin Producers was discussed by Roscoe Edlund, manager of the association, before the members of the American Association of Trade Association Executives at a meeting at the Hotel Pennsylvania, New York City, November 5.

BACKGROUND VALUES . . . a PART of the product, APART from the pric

NO part of our organization carries a greater burden of responsibility than that of our Division of Research, for it is here that direction and inspiration for the creation of many of our duplications of costly or unavailable raw materials usually originates. Notable examples of this work are to be found in the large group of imitation oils developed by us and now serving hundreds of manufacturers, either as complete replacements for the natural oils or to stretch those which are scarce or exorbitantly priced. Imitations of Lavender, Lilac and Patchouly are but a few of the economical, yet remarkably fine duplications we have made especially for manufacturers of soap. Such work by our technical staff serves constantly to insure our customers the rich fruits of carefully organized research . . . a PART of all Fritzsche products, APART from their price.

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON · CHICAGO · LOS ANGELES · ST. LOUIS · TORONTO, CANADA · MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

Headquarters for
ESSENTIAL OILS • FLAVORS
• AROMATIC CHEMICALS •
PERFUME RAW MATERIALS

Glycerine Supply Vital Wrisley Tells Oil Chemists

SOAP occupied a position somewhat subordinate to its usual standing at the 16th fall meeting of the American Oil Chemists Society in Chicago, Oct. 8 and 9. As expressed by Dr. Foster D. Snell, who served as chairman of the session devoted to soap, the meeting could be more correctly described as concerned with "glycerine and its *by-product*, soap." Of outstanding interest was the appearance of George A. Wrisley of the Allen B. Wrisley Co., Chicago, who is serving in Washington as chief of the soap, glycerine, fatty acids and inedible fats unit of the War Production Board's Chemical division. Referring to recent amendments to the W.P.B.'s Limitation Order, M-71, Mr. Wrisley stated that the main problem his unit must solve is to provide an adequate glycerine supply for war needs.

"The time to conserve," he said, "is when you have something to conserve. The M-71 amendments are intended to work toward creation of an adequate stock pile of fats and oils for the entire United Nations program." In 1941, he said, soap makers had available something over 195,000,000 pounds of glycerine and under M-71 there should be available between 155 and 160 million pounds.

"We started with a good stock on hand," he continued, "and this will help cushion the repercussions. But it appears that with the increased requirements of lend-lease our stock position will be somewhat cut into. We cannot permit this stock to be dissipated and must prepare to maintain it for immediate use. With reduction of supplies and increased requirements comes the problem of increasing glycerine recovery to the maximum. This means elimination of non-essential uses for glycerine and the curbing of the less essential use.

"With curtailed use goes the responsibility for producing the maximum amount of glycerine. But the entire burden should not be placed on those who never produced it before

GEORGE A. WRISLEY

or where rigid specifications would put them out of business. A balance must be obtained between the rigors of high glycerine recovery and the less essential uses for glycerine. There will be further curtailment of glycerine for non-essential purposes and when, as and if the need develops, the standards of recovery will have to be raised.

"The picture is continually changing and any figure set up is subject to change. Some manufacturers have got to have glycerine, but the soap industry will be obliged to take care of Army, Navy and all war requirements. You will have to do it voluntarily or isn't it reasonable to suppose that there will be a way to make you do it?"

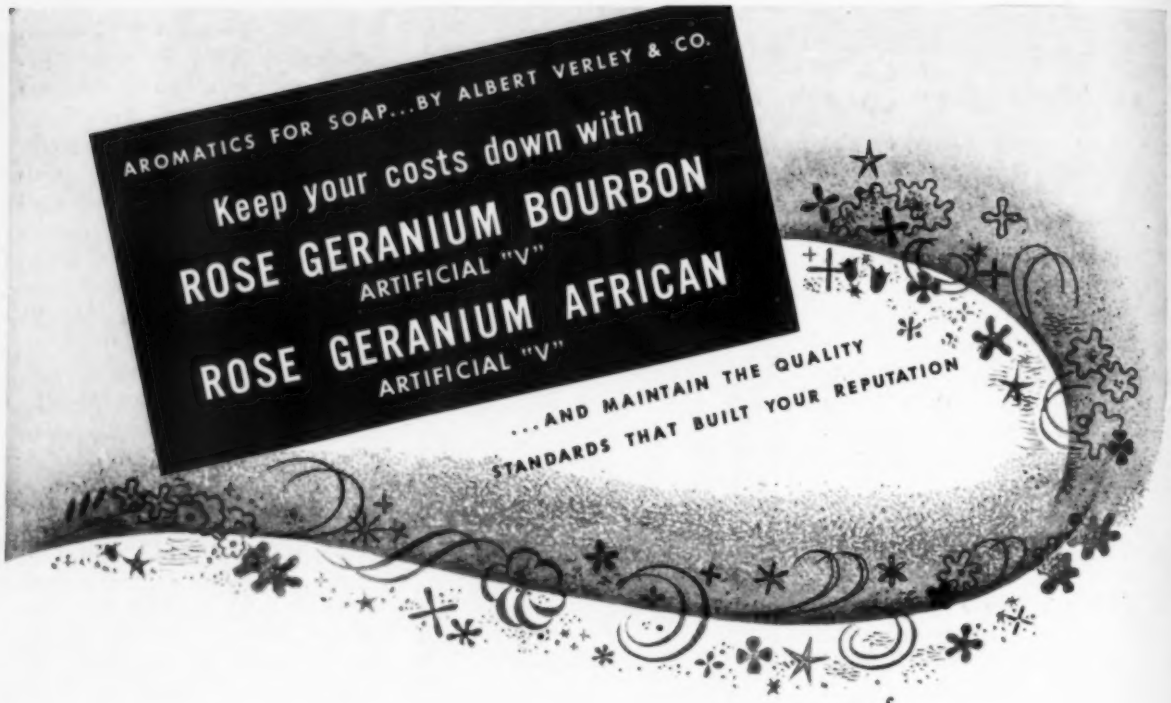
Replying to a question regarding the quantities of fats and oils shipped abroad under the lend-lease program, Mr. Wrisley asserted that "relatively our Allies are not getting more nor less than our own armed forces. As for civilian uses, our countrymen are getting a far better break than our Allies."

The work of three Colgate-Palmolive-Peet chemists, B. S. Van Zile, E. W. Blank and J. C. Moore, was reported in a paper read by Mr. Blank on the topic "Effect of Sodium Chloride on Glycerol Analysis by Oxidation." Briefly summarized, the paper dealt with certain improvements in the method of analysis. P. Bradford of Swift & Co.'s Chicago research laboratories followed with a paper on "The Determination of Glycerol By Oxidation With Periodic Acid," which described a new method of analysis to overcome well-known difficulties in analyzing commercial glycerine solutions. Work on the problem was done jointly by Mr. Bradford, W. D. Pohle, J. K. Gunther and V. C. Mehlenbacher.

What happens to glycerine in some of the newer high-temperature soap making processes which are just coming into use was recounted by M. Mattikow, of Refining, Inc., Charlotte, N. C. "Behavior of Glycerine in the Presence of Alkali at High Temperatures" was his topic. The advent of high temperature processes, Dr. Mattikow explained, has created a void in soap-making data and an investigation was thought necessary of the variables involved. Destruction of glycerine at 550°F. was studied and one conclusion was that 4 per cent was lost. His report, however, is only preliminary, he explained and further study will be made.

P. R. Mosher of Hercules Powder Co., Wilmington, substituted for J. N. Borglin, same company, who was originally scheduled to present a paper on "Rosin—Use in Soap." His discussion dealt with the extent to which rosin can be used as a replacement for fats in soap and the effect this replacement has on color, detergency and other properties of soap.

Progress in the development of "soapless soaps" was recounted by Lester F. Hoyt of National Aniline & Chemical Co., Buffalo, N. Y., in a paper on "Detergents, Old and New." He cited figures indicating how in a decade synthetic detergents have become "big business." Their importance has been enhanced, he said, by the fact that specific properties of the synthetics enable them to func-



WE have worked for years on the synthesis of some of the principal odors for soap. Today, with natural raw materials scarce and high in price, the fruits of this development work are yours at a time when you really need them. • Actually, it is no longer necessary to depend upon uncertain supplies of the natural products, so nearly have these artificial similes approached perfection. • You can use artificials in increasing proportions, or to replace the natural product entirely. • These beautiful similes are available at prices which are well within your reach. Entirely fabricated in the United States from domestic raw materials.

Write for working samples and prices.

NATURAL RAW MATERIALS IN STOCK — *for immediate delivery. Many of the scarce essential oils are still available through Albert Verley & Company. Write for samples and prices — subject, of course, to prior sale.*

Albert Verley & co.
AROMATICS

ALBERT VERLEY AND COMPANY, 232 E. OHIO ST., CHICAGO, ILL.
114 E. 25TH ST., NEW YORK • MEFFORD CHEMICAL COMPANY, LOS ANGELES

tion where soap cannot. Because of the war in the Pacific, soap has been dealt a severe blow, he pointed out, and further expansion of the use of synthetics is indicated.

"Soap is, however, an excellent detergent in soft water regions," said Mr. Hoyt, "and I do not believe the synthetic detergents will replace them there. But in the Great Lakes area and in sea water exceptional combinations of qualities in the synthetics make them effective for washing dishes." When synthetic detergents are used on linoleum floors, "they come up nearly as slippery as when soap is used," he remarked, whimsically. He recited a long list of other applications ranging from bottle washing to street sprinkling, and for shampooing dogs, as well as uses in agriculture, the paper and petroleum industries. Soapless detergents are also used as gargles and mouthwashes, he stated.

Reporting on work of the Society's Soap Analysis Committee, M. L. Sheely of Armour Auxiliaries, Chicago, said that the committee is still functioning "although its heart action is weak." Some progress has been made in pending studies, he stated but no work completed, so no recommendations could be made. One year ago, he said, a method for determining tetrasodium pyrophosphate in soap had been tentatively recommended for adoption. Since no criticisms had been offered, the committee recommended that the method be now advanced to an official status.

Action designed to encourage research of benefit to the industry as a whole was taken during the Society's two-day meeting. S. O. Sorensen of Archer-Daniels-Midland Co., Minneapolis, Minn., was appointed chairman of a committee commissioned to investigate the matter of establishing a fellowship or an Institute which would sponsor research into the fundamental chemistry of fats, oils and soap raw materials. Under the chairmanship of Dr. H. A. Schuette of the University of Wisconsin, another committee was instructed to investigate the possibility for conferring honors on college seniors and graduate students for outstanding work in fats, oils and soap.

Registration at the meeting totalled 258. Dr. J. J. Vollertsen of Armour & Co. was chairman of the Chicago local committee whose twenty-two members contributed their efforts toward making the meeting a success. Dr. J. K. Gunther of Swift & Co., headed the program committee. Technical exhibits were provided by the following concerns: Dicalite Co., Industrial Chemical Sales, division of West Virginia Pulp & Paper Co., Johns Manville Corp., Aromatic Division of General Drug Co., De Laval Separator Co., L. A. Salomon & Bro., V. D. Anderson Co., Skelly Oil Co., Darco Corp., Kimble Glass Co., Wm. Welch Mfg. Co., Merck & Co., and Central Scientific Co.

—— ♦ ——

C-P-P Testing New Tube

Colgate - Palmolive - Peet Co., Jersey City, N. J., is one of several companies that have been testing a new collapsible tube of plastic material perfected by the Celanese Celluloid Corp., a division of the Celanese Corp. of America. The new tube is described as exactly like metal tubes in appearance and can be squeezed in the same way. It is lighter in weight than the tin tube and slightly more resilient, hence will not roll into a tight curl, it is claimed. The Celanese Celluloid Corp. announces that the tube is now ready for general marketing and that at present 100,000,000 tubes are being used by three concerns which have conducted tests over an eighteen-month period.

—— ♦ ——

Chemical Exposition Nov. 24-29

The National Chemical Exposition, to be held Nov. 24 to 29 at Hotel Sherman, Chicago, will have a significant exhibit of "New Chemicals," designed to aid chemists in solving emergency war problems. Industrial movies, which will be displayed continuously throughout the show, are planned to provide manufacturers opportunity to learn of new developments in the chemical field, including plant construction and utilization of domestic sources of raw materials. Leading chemists are cooperating with the War Production Board's salvage division to prepare a spectacular exhibit covering the campaign to salvage essential chemicals. S. Donald Perlman, executive director of W.P.B.'s salvage section, will have personal charge of this exhibit, according to Victor Conquest, director of research for Armour & Co., who is chairman of the Show Committee for the Chicago section of the American Chemical Society, sponsors of the big affair.

—— ♦ ——

Spur Soap Buying as Patriotic

"Buy Soaps and Help Win the War" was the theme of an advertisement in Chicago newspapers last month for Goldblatt Bros., a local department store. Purchase of three dozen cakes, the copy explained, permits the making of eight ounces of glycerine, or enough to manufacture a 5-pound stick of dynamite. "Uncle Sam wants you to buy all the soap you want," the copy advises.

—— ♦ ——

New Plant for Chicago Chemical

Chicago Chemical Co., has started construction of a new plant in that city to house the manufacture of war materials for which present facilities are inadequate. Manufacture of chemicals for water softening treatment will continue in the original plant at 6221 W. 66th Place, a company announcement states.

—— ♦ ——

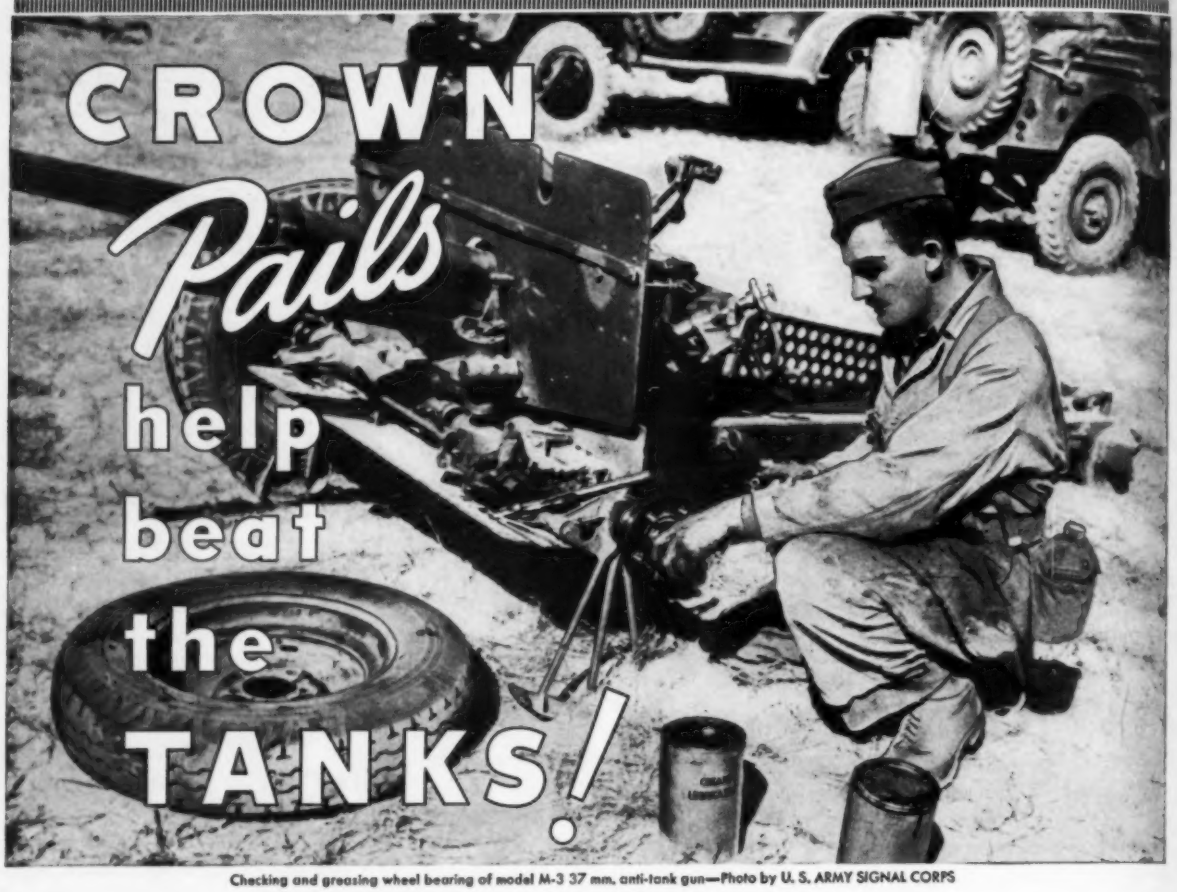
Commission Rathkamp Man

Henri Logcher, formerly purchasing agent in the New York office of N. V. Rathkamp & Co., a Dutch East Indies pharmaceutical house, recently commissioned a first lieutenant in the U. S. Army, is one of the first Netherlanders to be so honored. Lieutenant Logcher is attached to the Sanitary Corps of the Medical Department.

—— ♦ ——

Smith, of Yardley, In Army

Philip C. Smith, an eight-year man with Yardley & Co., New York, and for the past two years advertising manager and a director of the company, recently left for active assignment in the U. S. Army.



Checking and greasing wheel bearing of model M-3 37 mm. anti-tank gun—Photo by U. S. ARMY SIGNAL CORPS

WHEN our Army's anti-tank artillery goes into action . . . there may be a Crown Pail right on the firing line.

For the lubricating grease that keeps the wheels rolling smoothly . . . and protects the recoil mechanism . . . is often shipped in sturdily constructed Crown Pails for use in the field.

That's one more example of the way the Crown Can organization is doing its full part in the war effort . . . a part that includes everything from the manufacture of gas mask canisters and airplane cowling to the production of the more familiar cans which protect and preserve the food needed on the battlefront and the home front!

CROWN CAN COMPANY, PHILADELPHIA, PA.
Division of Crown Cork and Seal Company

CROWN CAN

BIDS AWARDS

C-P-P Enters Low Bid

In a recent opening for the Panama Canal, Washington, D. C., Colgate - Palmolive - Peet Co., Jersey City, N. J., submitted the low bid on 75,000 pounds of laundry soap at $4,215.

N. Y. Navy Bid

A. G. Mattison, Portsmouth, N. H., submitted the low bid on 1,000 pounds of roach exterminator powder at 28c in a recent opening by the N. Y. Navy Purchasing Office.

G.P.O. Low Bids

The following low bids were submitted in a recent opening by the Government Printing Office, Washington, D. C., for miscellaneous supplies: Wilbert Products Co., New York, 100 gallons of liquid floor wax at $1; Uncle Sam Chemical Co., New York, N. Y., 500 pounds of deodorant in 4-ounce cakes at 21c.

Soap Dispenser Bid

In a recent opening by the New York Navy Purchasing Office, Bobrick Mfg. Corp., Los Angeles, Cal., submitted a low bid of $1.50 on 200 wall liquid soap dispensers.

U. S. Dept. of Agriculture Bids

In a recent opening by the U. S. Department of Agriculture, Washington, D. C., S. B. Penick & Co., New York, submitted the only bids on derris cube and timber powder of 37c a pound for item 1, 36c for items 2 and 3 and 37c for item 4.

Low Navy Purchasing Bids

The following low bids were submitted in recent openings by the New York, Navy Purchasing Office, New York, for miscellaneous supplies: Woolf's Hypozone, New York, 1,000 gallons (water solution) general and fungicide disinfectant at $1.44; Armour & Co., Chicago, 25,040 pounds of chip soap at 10c; and American Soap Powder Works, Brooklyn, 60,000 mineral oil sweeping compound at 1c.

Treasury Procurement Awards

The following awards were made by the Treasury Procurement Department, Washington, D. C., in recent openings for miscellaneous supplies: J. A. Tumbler Labs., Baltimore, 8,000 containers of cleaning compound at 15.25c; Procter & Gamble Distributig Co., 600 cases of soap powder, $2.234.

Vet. Administration Awards

The following awards for various types of soaps to be delivered to specified locations throughout the country were made by the Veterans Administration Procurement Division, Washington, D. C., in a recent opening: Colgate - Palmolive - Peet, Jersey City, chip soap to be packed in 180 pound barrels, 24,480 lbs., $2,319.96; ordinary laundry soap to be packed 60 16-ounce cakes to the case, 49,020 lbs., $3,140.02; powdered laundry soap to be packed 200 lbs. to the barrel, 36,800 lbs., $4,236.46; floating white toilet soap to be packed 100 6-ounce cakes to the case, 1,350 lbs., $132.66; floating white toilet soap packed 500 2-ounce cakes to the case, 4,837½ lbs., $529.55; Procter & Gamble Distributing Co., Baltimore, chip soap packed 185 lbs. to the barrel, 3,780 lbs., $366.63; ordinary laundry soap to be packed 60 16-ounce cakes to the case, 23,460 lbs., $1,461.83; powdered laundry soap to be packed 200 lbs. to the barrel, 26,000 lbs., $2,669.22; J. Eavenson & Sons, Div., Wilson & Co., Camden, N. J., chip soap to be packed 150 lbs. to the barrel, 2,700 lbs., $266.22; ordinary laundry soap to be packed 60 16-ounce cakes to the case, 5,160 lbs., $283.40; Iowa Soap Co., Burlington, Iowa, powdered laundry soap to be packed 200 lbs. to the barrel, 71,100 lbs., $5,694.47; Lee Soap Co., Denver, Colorado, 2 per cent laundry soap to be packed 175 lbs. to the barrel, 1,400 lbs., $162.00; Sterling Supply Corp., Philadelphia, ¼ per cent powdered laundry soap to be packed 200 lbs. to the barrel, 4,000 lbs., $407.84; Haskins Bros. & Co., Omaha, Nebraska, white floating toilet soap to be packed 100 6-ounce cakes to the case, 24,473 lbs., at $2,206.07; Allen B. Wrisley Distributing Co., Chicago, floating white toilet soap to be packed 500 2-ounce cakes to the case, 30,825 lbs., $3,180.49; Industrial Supply Co., St. Louis, Mo., ordinary laundry soap to be packed 60 16-ounce cakes to the case, 4,200 lbs., $247.80.

Sweeping Compound Award

Sweeping Compound Mfg. Co., New York, was awarded the contract for 100,000 pounds of mineral oil sweeping compound at 1c a pound in a recent opening by New York, Navy Purchasing Office, New York.

Soapmaker's Assn. Meets

The first meeting of the American Soapmakers Association took place in Chicago recently. This group is similar to the Association of Soapmakers and Perfumers that has existed in Europe for 150 years. Among the objects of the association are the advancement and protection of the soapmaker's interests, to afford opportunity to members to associate and exchange views on scientific questions, to promote training of competent soap makers and soap chemists and to devote particular interest to the matter of apprenticeship. Another meeting of the new group was held subsequently in Milwaukee.

Test Sales on "Deleet"

General Bandages, Inc., Chicago, is running sales tests on a new product, "Deleet" sudsing tablets, for laundry work done in bath room wash bowls. One tablet is said to be sufficient for an ordinary rinsing of stockings, and personal apparel of sheer fabrics. The product is offered at eight tablets for 10 cents or twenty-two for 25 cents and is sold only in drug stores or at toilet goods counters. The initial sales campaign was run in Lacrosse, Wis.

HELIOCRETE

offers the great beauty

of the heliotrope fragrance with none of the disadvantages of heliotropin.

Heliocrete is ten times closer to the natural heliotrope fragrance, with no chemical by-odor.

It is stable against alkali—excellent as a fixative.

It has four times the strength of heliotropin and is twice as economical.

SCHIMMEL & CO., INC.

601 West 26th Street **New York, N. Y.**

CHICAGO • CINCINNATI • CLEVELAND • LOS ANGELES • ST. LOUIS

TRADE MARKS

The following trade-marks were published in the October issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks

PASTURA—This in white block letters that cross to form two words on a four leaf clover design. Between each of the four leaves of the clover is a pig, a cow, a horse and a sheep. It is used for insecticides for livestock. Filed by George E. Field, doing business as Pastura Mfg. Co., Altmar, N. Y., May 25, 1942. Claims use since 1911.

JOHNSON'S—This in bold black block letters for a liquid wax polish for finish and coating furniture and interior and exterior finished surfaces. Filed by S. C. Johnson & Son, Inc., Racine, July 2, 1942. Claims use since April 1, 1935.

PLEE-ZING—This in block letters within an oval for wallpaper cleaner, glass cleaning preparation, shoe polish, sweeping compound, lemon odor cleanser, cocoa castile soap, granulated soap, laundry soap, soap flakes, shoe whitener, white shoe polish. Filed by Plee-Zing, Inc., Chicago, May 23, 1942. Claims use since December, 1936, on wallpaper cleaner; since June, 1938, on glass cleaning preparation; since July, 1938, on shoe polish, shoe whitener and white shoe polish; since August, 1929, on laundry soap, soap flakes and granulated soap; since August, 1939, on sweeping compound; and since January, 1940, on lemon odor cleanser and cocoa castile soap.

POROKLEEN—This is bold block type for chemical cleaning compound. Filed by Purco Products, Inc., Los Angeles, Calif., July 16, 1941. Claims use since Sept. 14, 1939.

CHEK-R-LINEUM — This in bold letters for an insecticide. Filed by Ralston Purina Co., St. Louis, August 3, 1942. Claims use since July 23, 1942.

FLIGHT-LUSTRE—This in solid letters for cleaner and polish for aluminum and aluminum alloys. Filed by O-Cedar of Canada Ltd., Toronto, Canada, July 24, 1942. Claims use since April 1, 1942.

INSINUATION — This in bold type for soaps and shaving creams. Filed by Firmenich & Co., New York, N. Y., August 13, 1942. Claims use since November 5, 1941.

ARIDERMA—This in solid letters for soaps, shaving preparations, shampoos, etc. Filed by Lightfoot Schultz Co., Hoboken, N. J., August 18, 1942. Claims use since May 19, 1939.

COMMANDO — This in solid letters for toilet kit containing soap. Filed by Alfred D. McKelvy Co., Minneapolis, August 14, 1942. Claims use since July 6, 1942.

THERAFILM—This in large bold letters for germicidal compositions. Filed by Wallace & Tiernan Products, Inc., Belleville, N. J., August 7, 1942. Claims use since July 23, 1942.

DRANO—This in heavy black block letters with a line over the "a" to describe a chemical for cleansing drains, sinks, washbowls, etc. Filed by the Drackett Co., Cincinnati, August 8, 1942. Claims use since April 3, 1923.

NURSEPTIC—This in solid letters describing a germicide. Filed by Vick Chemical Co., Wilmington, August 27, 1942. Claims use since August 10, 1942.

DUBARRY SUCCESS SCHOOL—This in solid letters in two lines to describe soap. Filed by Richard Hudnut, New York, August 10, 1942. Claims use since June 5, 1942.

SOILSORB—This in bold block letters to describe a cleaning compound for use in water with or without soap. Filed by The Cowles Detergent Co., Cleveland, September 3, 1942. Claims use since June 19, 1942.

OUT-SECT—This in bold long hand letters to describe insecticides. Filed by Stanco, Inc., Wilmington, September 1, 1942. Claims use since August 5, 1942.

FURNO—This in block letters above the portrait head of Katherine Hibbens Cambell and within a thin line outline of the label to describe furniture polish. Filed by Acme White Lead and Color Works, Detroit, January 27, 1942. Claims use since June 21, 1938.

Trade Marks Granted

397,871. Insecticides. Filed by P. C. Product Co., St. Louis, Sept. 30, 1940. Serial No. 436,521. Published July 14, 1942. Class 6.

397,879. Combined cleaning and polishing compound for furniture. Filed by William W. Jakubiak, Stamford, Conn., August 19, 1941. Serial No. 446,360. Published July 14, 1942. Class 16.

397,901. Abrasive cleaner for general household purposes. Filed by Newell Gutradt Co., doing business as Strykers Soap Co., San Francisco, March 13, 1942. Serial No. 451,603. Published July 14, 1942. Class 4.

397,994. Liquid wax polish. Filed by H. Pete Mills, doing business as Eze-Glos Co., Cincinnati, Sept. 25, 1939. Serial No. 423,920. Published June 4, 1940. Class 16.

398,008. Parasiticides. Filed by California Spray-Chemical Corp., Richmond, Calif., August 19, 1941. Serial No. 446,353. Published November 11, 1941. Class 6.

398,010. Parasiticides. Filed by California Spray-Chemical Corp., Richmond, Calif., Sept. 12, 1941. Serial No. 446,730. Published October 14, 1941. Class 6.

398,012. Parasiticides. Filed by California Spray-Chemical Corp., Richmond, Calif., September 12, 1941. Serial No. 446,987. Published October 28, 1941. Class 6.

398,012. Compound for polishing and cleaning an automobile. Filed

RESEARCH has proved two things — (1) Malmstrom's Nimco Brand Lanolin is better for 5 big reasons—A-N-D (2) Malmstrom's Nimco Brand Lanolin is America's No. 1 choice . . . *the largest selling Lanolin in the U.S.A.*

Today, when quality standards are harder to maintain, Malmstrom has a greater responsibility than ever before . . . for today Malmstrom has *more* customers to satisfy *than ever before.*

To this endeavor, we pledge our efforts, our experience and our resources so that American Industry can benefit from Malmstrom improvements in the quality and value of Nimco Brand Lanolin and allied products.

America's No. 1 Choice Because It's 5 WAYS BETTER

MALMSTROM NIMCO BRAND LANOLIN

1. LOWEST *ODOR* VOLUME
2. GREATER *UNIFORMITY*
3. BETTER *COLOR* QUALITY
4. SMOOTHER *TEXTURE*
5. FINER *BODY* CONSISTENCY

N. I. MALMSTROM & CO.

America's Largest Suppliers of

LANOLIN • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical

DEGRAS • Neutral and Common • **WOOL GREASES**

147- LOMBARDY STREET • BROOKLYN, NEW YORK

STOCKS CARRIED IN CHICAGO • KANSAS CITY • MINNEAPOLIS • LOS ANGELES • SAN FRANCISCO

by Surfaceal, Inc., Providence, R. I., October 9, 1941. Serial No. 447,647. Published July 28, 1942. Class 16.

398,040. Cleaner and bug remover for windshields, a cleaner for chrome and other plated metals and bright metals, and mirrors. Filed by Goodell - Varner - Chemical Co., Rock Island, Ill., April 15, 1942. Serial No. 452,348. Published July 28, 1942. Class 4.

398,045. Liquid and powdered soaps. Filed by the Theon Co., Inc., New York, April 25, 1942. Serial No. 452,589. Published July 21, 1942. Class 4.

398,046. White shoe polish. Filed by Irving Sternberg, doing business as Frenchee Chemical Co., Richmond Hill, N. Y., April 27, 1942. Serial No. 452,624. Published July 21, 1942. Class 4.

398,081. Laundry starch. Filed by American-Maize Products Co., New York. February 19, 1942. Serial No. 451,064. Published April 28, 1942. Class 6.

398,129. Machines and apparatus for applying insecticides, either powder or liquid, or both to vegetation. Filed by The Root Manufacturing Co., Cleveland, September 5, 1941. Serial No. 446,813. Published July 21, 1942. Class 23.

398,175. Preparation for cleaning and polishing metal porcelain, glass, and other polished surfaces, including painted, lacquered and enameled surfaces. Filed by the A. S. Boyle Co., Jersey City, N. J., May 21, 1942. Serial No. 453,151. Published August 4, 1942. Class 4.

398,185. Germicidal solution. Filed by Wm. S. Merrell Co., Cincinnati, May 27, 1942. Serial No. 453,307. Published July 28, 1942. Class 6.

398,190. Insect repellent and plant stimulant. Filed by Lee B. Leslie, Grand Prairie, Texas, June 1, 1942. Serial No. 453,399. Published August 4, 1942. Class 6.

398,201. Preparations used as cleaning agents for general household and industrial cleansing purposes. Filed by Solvay Process Co., New York, June 9, 1942. Serial No. 453,572. Published August 4, 1942. Class 4.

398,202. Germicide and disinfectant in liquid form. Filed by D. H. Buster Chemical Co., Kansas City, Mo., June 12, 1942. Serial No. 453,609. Published July 28, 1942. Class 6.

398,252. Floor oils, spray oils, and cedar and wax sprays for settling dust. Filed by Masury-Young Co., Charlestown, Mass., November 1, 1941. Serial No. 448,328. Published August 11, 1942. Class 4.

398,254. Insecticides. Filed by Charles G. Enge, doing business as Western Chemical Co., New York, November 14, 1941. Serial No. 448,633. Published March 10, 1942. Class 6.

398,296. Cleaning compound. Filed by Edward H. Hufnagel, doing business as Normal Chemical Co., Mount Vernon, New York, May 27, 1942. Serial No. 453,303. Published August 11, 1942. Class 4.

398,433. Blueing; lye and potash; disinfectants; insecticides; etc. Filed by R. C. Williams Co., New York, June 13, 1942. Serial No. 453,654. Published August 18, 1942. Class 6.

—— ♦ ——

Chemical Salesmen Meet

The annual meeting of the Salesmen's Association of the American Chemical Industry was held in the Chemists' Club, New York, on October 20. At the meeting, a nominating committee was formed to choose officers for the next year. Robert J. Quinn, Mathieson Alkali Works, was chairman. Other members included: Ralph Dorland, Dow Chemical Co.; E. J. Maguire, Du Pont; John A. Chew, John A. Chew, Inc.; Ira Vandewater, R. W. Greeff & Co.; Frank McHugh, N. Y. Quinine & Chemical Works; and George Bode, Electro Chemicals Dept. of Du Pont.

—— ♦ ——

Irons Ungerer St. Louis Rep.

Ungerer & Company, New York, dealers in volatile oils and aromatic chemicals have just announced that Clifford L. Irons Co. will represent them in St. Louis in place of Ralph C. Morgan who has enlisted in the U. S. Navy and is undergoing training at the University of Ohio preparatory to receiving his commission. Victor L. Roberson is office manager and is assisted by Miss H. Chlanda, who was formerly associated with the late Clifford L. Irons.

—— ♦ ——

Fix Nov. Glycerine Deliveries

A new WPB directive fixes the basis on which glycerine may be delivered in November to customers who order more than 50, but less than 10,000 pounds, and who on or before October 15, filed with the WPB and their supplier a statement of November requirements on Form PD-362 as provided by Revised General Preference Order M-58.

For each preference rated group of orders in each product classification on PD-362, the WPB has assigned a figure representing the percentage of the quantity of glycerine ordered for November delivery that each supplier may deliver. Suppliers may fill such PD-362 order only if received on or before October 15, with Table I of that form "substantially filled out." A purchaser who has been refused November delivery may apply therefor on Form PD-362 filed in triplicate with the Chemicals Branch of the WPB stating the reason why the supplier rejected his application. Practical shipping units are authorized under certain limitations.

—— ♦ ——

Mich. Alkali Scrap Drive

Michigan Alkali Co., Wyandotte, Mich., had turned in 3,202 tons of scrap metal by October 9, to the scrap metal drive. This is a climax to the salvage drive that began on January 1 and is now reaching its peak. The drive is being conducted under the auspices of the company and the Industrial Salvage Section of the Detroit WPB office. In addition to scrap metal, over 20 tons of industrial rubber have been salvaged under the direction of the well organized scrap committees.

—— ♦ ——

Cut Tube Tin Content

A recent amendment to Conservation Order M-115, issued October 5, reduces tin content in shaving cream tubes from 7½ per cent to 1½ per cent by weight, and tooth paste tubes from 7½ per cent to 5 per cent.

FATTY ACIDS
for all purposes

WHETHER CUSTOM-BUILT FOR YOUR PARTICULAR NEEDS, OR ORDERED FROM OUR STOCKS, WOBURN FATTY ACIDS ARE THE BEST FOR THE JOB.

Offered for Today's Soap and Cosmetic Requirements

Palm F.A.	Cottonseed F.A.	Peanut F.A.
Tallow F.A.	High Titre Cottonseed F.A.	Distoline*
Corn F.A.	Cocoanut F.A. Replacements	Helioline

Other Fatty Acids Upon Request

WOBURN
DEGREASING CO. OF N. J. HARRISON, N. J.

We Invite Your Inquiries

*Registered U. S. Pat. Off.

RAW MATERIALS FOR THE SOAP INDUSTRY

FATTY ACID SUBSTITUTES FOR COCONUT OIL

Mixtures of Vegetable oil fatty acids to replace coconut and other high-glycerine content oils now unavailable to many soap makers. It will pay you to investigate these replacement materials at once. Write for samples and prices.

DRY ALKALIES

A recent innovation in Welch, Holme & Clark service is the mixing of dry alkalies for private formula products. Let us handle this operation for you.

Castor Oil
Corn Oil
Cottonseed Oil
Olive Oil

Olive Oil Foots
Peanut Oil
Rapeseed Oil
Sesame Oil

Soya Bean Oil
Fatty Acids
Lard Oils
Neatsfoot Oil

Oleo Stearine
Stearic Acid
White Olein
Tallow

Grease
Lanolin
Caustic Soda
Soda Ash

Borax
Caustic Potash
Carbonate Potash
Sal Soda

Boric Acid
Modified Soda

Silicate Soda
Metasilicate
Tri. Sodium Phosphate

Di Sodium Phosphate
Chlorphyll
Superfatting Agent

WHITE MINERAL OIL **PETROLATUM**

WELCH, HOLME & CLARK CO., Inc.
563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

RAW MATERIAL MARKETS

As of November 2, 1942

THE big news in the market for fats and oils during October was the establishment of new ceilings by the OPA on wool grease, distilled fatty acids, stearic, and oleic acids, raw soap stocks and recovered or acidulated soap stocks. Apart from that, the tone of the market varies between quietness and steadiness. The new regulation by the OPA set dollars and cents prices on the articles mentioned above. Previously the ceilings for them represented their October 1, 1941 price or 111 per cent of their November 26, 1941 price, whichever was higher. The new specific ceilings set in Amendment No. 11 on wool grease and Amendment No. 12 on the other products reflect the average of such previous ceilings. Both amendments were effective October 16. This move follows the general policy of eventually replacing ceiling prices for some 125 major fats and oils initially established by the freeze technique, with specific industry wide maximums. This was done previously in the cases of cottonseed oil, corn oil, peanut oil and many other important fats and oils. (The full story of this ruling will be found on another page of this issue.)

Trading was slowed down by government restrictions and an apparent lack of adequate supplies which reflected themselves in a hesitancy on the part of both buyers and sellers. Animal fat offerings were scarce, this being reported due to the heavy demand, and a shortened domestic supply. Renderer's and packer's products seem to be at a premium. Requirements for the manufacture of soap, as well as Lend-Lease are creating a situation that can only be remedied by the establishment and development of new resources.

Going down the list of vegetable oils from babassu to soybean the answer to all this listlessness that characterizes the market seems to lie in such phrases as "supplies small and diminishing," as in the case of perilla, "still scarce on spot" for olive foots, "offerings lacking locally" for coconut, and so on. The new fats and oil consumption quotas seem to be operating with a minimum of reaction on market conditions.

The essential oil and aromatic chemical field is once again described as "spotty." A flurry of activity was noted by the sharp decrease in the price of orange oil. This dropping of cold pressed oil from $3.25 a pound to $2.25 was the first change in orange made by the California Fruit Exchange in more than a year. Several factors are responsible for the price drop. The basic one of course is the presence of competitive material. In addition to that from Florida, there are also fairly ample stocks of African and Brazilian oil being offered. The Brazilian for as low as $1.75. Lemon, remains steady.

Other changes of note in these classifications are: Ceylon Citronella dropping into a $1.20 to $1.40 range from a $1.30 to $1.70 field; and sweet almond slipped to $2.00 to $2.10 from its previously established range of $2.25 to $2.50. Also off was Anise—$3.10 to $3.50 (formerly $3.35 to $3.75). Spearmint was reported at $3.15.

Cresylic acid sprang into the news briefly with reports circulating to the effect that (1) the ceiling on British cresylic is too low, thus the material is liable to be scarce in supply, and (2) that some sellers are finding it difficult to move their stocks. With these conflicting reports the future trend would seem to be rather uncertain.

Anhydrous Sodium Metasilicate

The manufacture of anhydrous sodium metasilicate at its Chester, Pa. and Anderson, Ind. plants has been announced by the Philadelphia Quartz Company, Philadelphia. This product is called "Metso Anhydrous," latest member of their line of "Metso" cleaners. It is a technical grade of anhydrous sodium metasilicate, Na_2SiO_3, without water of crystallization. White and free-flowing, the anhydrous metasilicate is specially sized to reduce dustiness and to permit ready solubility. Of primary interest to makers of cleaning compounds for special purposes is its compatibility with soap, wetting agents, and other alkalies, such as caustic soda and phosphates of soda. Commercial quantities are now being packed in wax lined barrels and fibre drums.

—— • ——

Wool Scouring

Experiments in the laboratory and pilot-scale operations showed that the scouring of wool and extraction of wool fat with dichloroethane does not injure the wool. All but about 0.87 per cent of the fat is extracted. An extractor containing approximately 30 kg. of wool is half-filled with dichloroethane, and heated indirectly with steam for one hour. This treatment is repeated twice. The wool is then washed with cold dichloroethane for 15 minutes. The dichloroethane remaining in the wool is best removed with warm air. The scoured wool requires only light washing. To reclaim the fat, the dichloroethane is evaporated in vacuo. A. I. Matetskii, I. A. Rapoport, E. I. Garlinskaya and G. D. Tarnovskaya. *Sherstyanoe Delo* 19, No. 3-4, 14; through Chem. Abs.

ISCO

Caustic Potash

FLAKE • SOLID • GRANULAR • BROKEN
CRUSHED • WALNUT (88-92% KOH)

Containers of various capacities

LIQUID (45% KOH)

Other strengths if desired

Iron Free

Also Low Chlorine and Chlorine Free
Drums and Tank Cars.

ISCO

Carbonate of Potash

Calcined 98-100% K_2CO_3 Hydrated 83-85% K_2CO_3
Liquid 47-48% K_2CO_3

Water White, Sparkling Clear

ISCO

Double Refined
CANDELILLA WAX
Flake

This ISCO Wax is satisfactorily replacing Carnauba Wax (now becoming scarce) in a variety of industrial uses. Also available in Lump form.

Other Natural Waxes and Excellent Substitutes

•

NAPHTHALENE

FLAKE • BALL • CRUSHED • CHIPPED

Write, wire or phone

INNIS, SPEIDEN & COMPANY

Established 1816

A National Institution

117-119 Liberty Street • NEW YORK

CHICAGO • CLEVELAND • CINCINNATI
BOSTON • PHILADELPHIA • GLOVERSVILLE, N. Y.

KRANICH

Shampoo

Liquid Olive Oil Soap

Liquid Vegetable Oil Soap

40% and 30% (Only)

To replace coconut oil soaps

•

Powdered Soap

U. S. P. Castile (Only)

•

Potash Soaps

Soft Potash 40%

Hard Potash 70%

U.S.P. XI Green

•

Scrub Soaps

Plain, Pine, Sassafras

KRANICH SOAP COMPANY

55 Richards St. Brooklyn, N. Y.

SOAPS

PRICES

(As of November 2, 1942)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	109.00	131.00
Cresylic, drums	gal.	.81	.83
Low boiling grade	gal.	.81	.83
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	11¼	.12½
Adeps Lanae, hydrous, drums	lb.	.27–29	.32
Anhydrous, drums	lb.	.30	.33
Alcohol, Ethyl, drums	gal.	8.19	8.25½
Complete Denat., SD1, dms., ex.	gal.	.65	.70
Alum. Potash lump, bbls.	lb.	.04½	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., drums	lb.	.08¼	.09¼
Bentonite	ton	25.00	51.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., bbls., bags	ton	50.00	76.00
Carbon Tetrachloride, car lots	gal.	.73	1.17
L. C. L.	gal.	.80	1.27
Cresol, U.S.P., drums	lb.	.10¾	.11¼
Cresote Oil	gal.	.141	.15½
Feldspar, works	ton	30.00	35.00
Formaldehyde, bbls.	lb.	.05½	.05¾
Fullers Earth	ton	8.50	15.00
Glycerine, C.P., drums	lb.	18¾	.19¼
Dynamite, drums	lb.	.18¼	.18¾
Saponification, drums	lb.	12¾	.14¾
Soap lye, drums	lb.	11½	—
Lime, live, bbls.	ton	6.25	14.50
Mercury Bichloride, drums	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.08	—
Orthodichlorbenzene	lb.	.06	.08½
Paradichlorbenzene, drums	lb.	.11	.15
Petrolatum, bbls. (as to color)	lb.	.03¼	.07¾
Phenol (Carbolic Acid) drums	lb.	.12½	.14¼
Pine Oil, drums	gal.	.50	1.05
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.02⅞	.03¼
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, coarse	lb.	.04	.05
Rosins (net. wt., ex dock, New York)—			
Grade D to H	100 lb.	4.05	4.13
Grade I to N	100 lb.	4.13	4.16
Grade WG to X	100 lb.	4.21	4.25
Rotten Stone, dom., bags	lb.	.0128	.018
Silica	ton	20.00	27.00
Soaps—			
Tallow Chip, 88%	lb.	.10¼	.10⅞
Powder, 92%	lb.	.10⅝	.11¼
Powdered, White Neutral	lb.	.25½	.42
Olive Oil Paste	lb.	.40	—
Shampoo Base	lb.	.18	.20
Liquid Concentrate, 30-32%	gal.	.75	.79
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.05	1.45
Car lots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.92½	1.95
Soda Sal., bbls.	100 lb.	1.20	1.40
Sodium Chloride (Salt)	ton	14.20	18.00
Sodium Fluoride, bbls.	lb.	.08	.09¼
Sodium Hydrosulfite, bbls.	lb.	.17	.18
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.28	6.80
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	27½	.33½
Triethanolamine	lb.	.18	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.70	4.15

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.11⅛	Nom.
Castor, No. 1, bbls.	lb.	.15¼	.16
No. 3, bbls.	lb.	.13¾	.14¼
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	No Prices	
Tanks, Pacific Coast, futures	lb.	No Prices	
Copra, bulk, coast	lb.	No Prices	
Corn, tanks, West	lb.	.12¾	—
Cottonseed, crude, tanks, mill	lb.	.12¾	—
PSY, futures	lb.	.13⅞	.14⅛
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14	.14½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.18½	Nom.
Cotton Oil, tanks, Chicago	lb.	.14	—
Settled soap stock, Chicago	lb.	.03⅞	.04
Boiled soap stock, 65%, Chi.	lb.	.04⅞	.05
Foots, 50%, Chicago	lb.	.03⅞	.04
Castor Oil, split, tanks, N. Y.	lb.	.20¾	.21¼
Linseed Oil, split, tanks, N. Y.	lb.	.18½	—
Distilled	lb.	.21	.21½
Myristic acid, distilled, tanks, N.Y.	lb.	.19	.19½
Palm Oil, white tanks, N. Y.	lb.	.13	.13½
Single distilled	lb.	.12	—
Soybean Oil, split, tanks, N. Y.	lb.	.12¼	—
Distilled	lb.	.14¼	.20
Red Oil, bbls., dist. or sapon	lb.	.1330	.1430
Tanks	lb.	.11	—
Stearic Acid, saponif.			
Double pressed	lb.	.1580	.1680
Triple pressed	lb.	.1885	.1985
Greases, choice white, tanks	lb.	.08⅞	—
Yellow	lb.	.08¼	—
Lard, city, tubs	lb.	.12½	.12¾
Linseed, raw, bbl.	lb.	.1330	.1350
Tanks, raw	lb.	.1260	.1280
Olive, denatured, bbls., N. Y.	gal.	4.25	4.50
Foots, bbls., N. Y.	lb.	.19½	Nom.
Palm, Sumatra, cif. New York, tanks	lb.	No Prices	
African, tanks, ex. ship	lb.	.08¼	Nom.
Palm, kernel	lb.	No Prices	
Peanut, crude, tanks, mill	lb.	.13	Nom.
Soya Bean, domestic, tanks, crude	lb.	.12¼	Nom.
Stearin, oleo, bbls.	lb.	.1054	—
Tallow, special, f.o.b. N. Y.	lb.	.08½	—
City, ex. loose, f.o.b. N. Y.	lb.	.08⅝	—
Teaseed Oil, crude	lb.	No Prices	

STEARIC ACID

(DISTILLED)

CAKE, FLAKE AND POWDERED
TECHNICAL AND U.S.P. GRADES

●

WHITE PALM OIL FATTY ACIDS

(DISTILLED)

●

REFINED TALLOW FATTY ACIDS

WHITE OLEINE U.S.P. (DOUBLE-DISTILLED)

OLEIC ACID (RED OIL)

We Recover All Glycerine for War Purposes

Manufacturers Since 1837

A. GROSS & CO.

295 Madison Avenue, New York, N. Y.
Representatives in Various Cities

YOUR SIGNAL FOR SERVICE . . .

"—call D&O"

IN semaphore or in print—"CALL D & O" is your reminder of the many advantages Dodge & Olcott Company offers in supplying your requirements in essential oils, aromatic chemicals, raw materials, perfumes.

We feel sure you can benefit—as so many others have, from our experience of over 144 years in producing materials of superlative quality and dependability. Send today for a catalog of products in which you are especially interested.

DODGE & OLCOTT COMPANY

180 VARICK STREET · NEW YORK, N.Y.

BOSTON · CHICAGO · PHILADELPHIA · ST LOUIS · LOS ANGELES

Plant and Laboratories: Bayonne, N.J.

D.O

ESTABLISHED 1798

(As of November 2, 1942)

Essential Oils

Almond, Bitter, Artificial	lb.	$3.50	$3.75
Bitter, F.F.P.A.	lb.	4.75	5.00
Sweet, cans	lb.	2.00	2.10
Anise, cans, U.S.P.	lb.	3.10	3.50
Bay, 55-66% phenols, cans	lb.	1.60	2.10
Bergamot, coppers	lb.	32.00	Nom.
Artificial	lb.	2.25	6.50
Birch Tar, rect., cans	lb.	—	—
Crude, cans	lb.	—	—
Bois de Rose, Brazilian	lb.	4.75	5.00
Cayenne	lb.	—	—
Cade (juniper tar), drums	lb.	1.50	Nom.
Cajeput, tech., drums	lb.	—	2.10
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	—	—
White, drums	lb.	—	—
Cananga, native, cans	lb.	17.00	17.50
Rectified, cans	lb.	18.25	20.00
Cassia, Redistilled, U.S.P.	lb.	10.50	12.00
Cedar Leaf, cans	lb.	1.05	1.35
Cedar Wood, light, drums	lb.	.75	1.00
Citronella, Java, drums	lb.	—	—
Citronella, Ceylon, drums	lb.	1.20	1.40
Clove, U.S.P., cans	lb.	1.80	2.00
Eucalyptus, Austl., U.S.P., cans	lb.	1.05	1.30
Fennel, sweet, cans	lb.	3.60	—
Geranium, African, cans	lb.	30.00	Nom.
Bourbon, cans	lb.	24.00	—
Turkish (Palmarosa)	lb.	5.25	5.50
Hemlock, cans	lb.	1.20	1.25
Lavender, 30-32% ester, cans	lb.	—	—
Spike, Spanish, cans	lb.	4.25	4.35
Lemon, Ital., U.S.P.	lb.	—	Nom.
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	3.00	3.50
Linaloe, Mex., cases	lb.	4.25	—
Nutmeg, U.S.P., cans	lb.	4.75	6.00
Orange, Sweet, W. Ind., cans	lb.	6.00	6.25
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.00	—
California, expressed	lb.	2.25	—
Origanum, cans, tech.	lb.	2.75	2.90
Patchouli	lb.	8.00	8.50
Pennyroyal, dom.	lb.	—	—
Imported	lb.	3.15	3.25
Peppermint, nat., cans	lb.	5.50	5.75
Redis., U.S.P., cans	lb.	6.00	6.25
Petitgrain, S. A., cans	lb.	1.95	2.20
Pine Needle, Siberian	lb.	3.00	3.25
Rosemary, Spanish, cans	lb.	2.25	2.30
drums	lb.	2.10	2.15
Sandalwood, dom., dist., U.S.P.	lb.	6.50	7.00
Sassafras, U.S.P.	lb.	2.00	2.20
Artificial, drums	lb.	2.00	—
Spearmint, U.S.P.	lb.	—	3.15
Thyme, red, N. F.	lb.	3.25	3.50
White, N. F.	lb.	3.50	3.75
Vetiver, Java	lb.	42.00	50.00
Ylang Ylang, Bourbon	lb.	—	—

Aromatic Chemicals

Aceotphenone, C. P.	lb.	$1.55	$1.60
Amyl Cinnamic Aldehyde	lb.	—	—
Anethol	lb.	2.25	2.40
Benzaldehyde, tech.	lb.	.45	.55
N. F. VI	lb.	.85	2.75
Benzyl, Acetate	lb.	.59	Nom.
Alcohol	lb.	.63	.75
Citral	lb.	5.50	7.00
Citronellal	lb.	2.75	3.25
Citronellol	lb.	7.00	7.25
Citronellyl Acetate	lb.	—	—
Coumarin	lb.	2.75	3.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	2.25	2.65
Eugenol, U.S.P.	lb.	2.75	2.80
Geraniol, Soap	lb.	1.10	1.50
Other grades	lb.	1.50	3.50
Geranyl Acetate	lb.	—	—
Heliotropin	lb.	5.25	Nom.
Hydroxycitronellal	lb.	7.25	8.75
Indol, C. P.	lb.	28.00	30.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.81	.90
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	—	—
Linolool	lb.	6.75	7.00
Linalyl Acetate	lb.	5.50	7.25
Menthol, natural	lb.	—	13.50
Synthetic, U.S.P.	lb.	13.25	—
Methyl Aceophenone	lb.	—	—
Anthranilate	lb.	2.20	2.35
Paracresol	lb.	—	—
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	4.00	4.45
Ketone	lb.	4.15	4.60
Xylol	lb.	1.40	1.80
Phenylacetaldehyde	lb.	5.00	6.00
Phenylacetic Acid	lb.	1.85	1.90
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	—	—
Safrol	lb.	2.25	2.45
Terpineol, C.P., dra.	lb.	.40	—
Cans	lb.	.43	—
Terpinyl Acetate, 25 lb. cans	lb.	.87	—
Thymol, U.S.P.	lb.	3.00	Nom.
Vanillin, U.S.P.	lb.	2.35	2.75
Yara Yara	lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.	lb.	.29	.30
Pyrethrum Extract			
20 to 1	gal.	5.90	6.00
30 to 1	gal.	8.85	9.00
Derris, powder—4%	lb.	.31	—
Derris, powder—5%	lb.	.35	—
Cube, powder—4%	lb.	.31	—
Cube, powder—5%	lb.	.35	—
Squill, red, dried	lb.	.85	1.00

Waxes

Bees, white	lb.	.61	—
African, bgs.	lb.	.49	—
Refined, yel.	lb.	.59	.60
Candelilla, bgs.	lb.	.38	—
Carnauba, No. 1, yellow	lb.	.88	.89
No. 2, N. C.	lb.	.84	.85
No. 3, Chalky	lb.	.77	.78
Ceresin, yellow	lb.	.13½	.18
Montan Wax, bags	lb.	.45	.46
Paraffin, ref., 125-130	lb.	.0520	.0560

MAKE the KREIS TEST

Did you know that NUCHAR Active Carbon treatment of an oil or fat, which has developed a slightly positive reaction to the Kreis test, makes that oil or fat show a negative reaction?

Other adsorbents will not do this; in fact, in many cases, they will develop a positive Kreis test in an oil which before treatment showed a negative test.*

*See Oil and Soap Magazine 14:3-5 (1937) Harris, J. P.—Welch, W. A.

NUCHAR

INDUSTRIAL CHEMICAL SALES

DIVISION WEST VIRGINIA PULP & PAPER COMPANY

230 PARK AVENUE NEW YORK CITY | 35 E. WACKER DRIVE CHICAGO, ILLINOIS | 748 PUBLIC LEDGER BLDG. PHILADELPHIA, PA. | 844 LEADER BLDG. CLEVELAND, OHIO

PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Skin Protective Creams

MUCH attention has been paid during the past few years to the problem of evolving effective skin protective or barrier creams as an aid in preventing industrial dermatitis. The following formula devised by the British dermatologist, Silcock, is claimed to have proved successful over a three years' trial period:

Stearic acid	2.5 oz.
White beeswax	1 oz.
White petroleum jelly	2.5 oz.
Mineral oil	1.5 oz.
Melt and emulsify with	
Triethanolamine	14.5 cc.
Boiling water, to make	24 oz.
Mill in	
Magnesium stearate	2 oz.

Since certain medical workers prefer to omit triethanolamine from these preparations, the triethanolamine stearate could be replaced by hard soap, ammonia soap, glyceryl monosterate or other similar emulsifying agent. Better still perhaps would be a formula based on Lanette Wax SX together with cetyl stearyl alcohol, beeswax, petroleum hydrocarbons and pigments. The latter mechanical barrier might be composed of fine, cosmetic-quality kaolin, zinc or magnesium stearate, and zinc oxide. As the formula stands, degreasing substances will readily remove the protective film, rendering it ineffective for use against solvents.

Harsh skin cleansers have been found in certain cases to be the actual cause of occupational dermatitis, which was previously supposed to be the result of handling irritant chemicals. Recommending as an industrial skin cleanser a type of product based on sulfonated castor oil with a pH of 7.2, together with a smaller proportion of sulfated fatty alcohol derivative and 1-2 per cent of sodium hexametaphosphate, Schwartz[1] remarks that this preparation is used in the same way as liquid soap, and has been employed successfully in two large industrial plants in both of which dermatitis of the hands from harsh skin cleansers had been present for years. There is no doubt that too drastic cleansing of the skin decreases its protective acidity and thus predisposes to the production of dermatitis. Frank H. Sedgwick. *Soap, Perfumery & Cosmetics* 15, 419-21, 442 (1942).

[1] L. Schwartz, U. S. Public Health Reports, 1941, 1788.

Glyceride Computations

A discussion covers how far in the light of present knowledge of the glyceride structure of natural fats, it is possible by empirical calculations based on the proportions of the component fatty acids in a fat, to predict the general proportions of the chief mixed glycerides present. The use of such calculations, if practicable, might serve in suitable instances to avoid experimental determination of component glycerides in fats.

The matter has been tested with reference to a number of fats for the component glycerides of which experimental data are now available. For the majority of fats, which follow fairly closely the "rule of even distribution," it has proved possible to suggest methods of calculation from the fatty acid compositions which indicate with some degree of exactitude the amounts of the chief component mixed glycerides. The methods can generally be used when one, two, or three individual acids form the bulk of those present.

The chief component glycerides in certain groups of fats such as animal body fats rich in stearic acid, or palm oils,—which do not follow so closely the "rule of even distribution" in its simplest forms, can be computed approximately by introducing appropriate modifications into the scheme of calculation. T. P. Hilditch and M. L. Meara. *J. Soc. Chem. Ind.* 61, 117-25 (1942).

Grape-seed Oil

From the grapes of Switzerland, central Europe and the Balkan countries 20,000 to 30,000 tons of cooking oil could be obtained. The oil content of the seeds is generally 10-15 per cent; ripe seeds contain more than unripe ones. The oil yield is highest when the water content is between 8 and 10 per cent. A light yellow to green oil of agreeable flavor and nutlike taste is ex-

tracted with petroleum ether or ether. On extraction with benzene, gasoline, trichoroethylene, etc., the color is dark green.

Pressing in the cold gives about 10 per cent of a golden yellow oil similar in taste to olive oil. Hot pressing gives a higher yield, but the oil is dark green to brown and has a disagreeable odor, but can be improved by refining. The oil obtained from freshly collected grape seeds generally has an acid number less than 1. The oil is hydrolyzed very easily to free acid and mono- or di-glycerides. If prooxygenic substances are removed with the fatty acids by chromatographic adsorption, no acids are formed under proper storage conditions. The saponification number of the oils is 176-195, the iodine number 130-160.

Of the acids of the oil, 10-15 per cent are saturated, mainly palmitic and stearic. The liquid acids are mainly linoleic and oleic acids. The grape pulp also contains fats. It is recommended to separate the seeds first and then to treat the pulp for recovery of oil. From the residues after removal of oil from grape seeds tannin extract and active carbon can be produced. Herbert Fiedler. *Die Chemie* 55, 137-41 (1942); through Chem. Abs.

—— • ——

Adding Caustic Soda

In making soap, solutions of caustic soda as well as brine are best sprayed on to the top of the soap mixture in the kettle to give them a chance to react with the fats or soap as they descend through the mass. A simple way for the small manufacturer to do this is to lead the delivery pipes into a short length of wider pipe centered vertically above the top of the kettle. The top of this is closed, and at the bottom a flattish cone some 12 or 18 inches in diameter is fixed with its apex just projecting into the pipe, the mouth of which almost touches the sides of the cone. The base of the latter may be a foot or two above the top of the kettle. The simple device sprays caustic, brine, and if desired water, well over the contents. N. G. Weir. *Soap, Perfumery & Cosmetics* 15, 422-4 (1942).

Linseed Oil Fractionation

The glycerides of linseed oil are quantitatively separated by fractional adsorption into groups possessing different levels of unsaturation, the difference between adjacent glyceride groups being one double bond. As the complete range of unsaturation of the glycerides is defined, it is possible by examining more closely the most unsaturated and largest of the groups, and by making use of the data already available on the constituent fatty acids, to obtain a more complete and accurate picture than has hitherto been possible of the component glycerides of linseed oil. The glyceride groups are isolated by the methods of chromatographic analysis. With linseed-oil glycerides, the zones formed are colorless, but this complication is effectively overcome by using the iodine values of various zones as a probe. F. T. Walker and M. R. Mills. *J. Soc. Chem. Ind.* 61, 125-8 (1942).

—— • ——

Fat Oxidation by Light

Several fats were subjected to radiation from the yellow-red part of the spectrum for 1500 hours, with determination of the acid number, thiocyanate number, saponification number and Lea number or peroxide value at 100-hour intervals. The results showed that the increase in active oxygen was regular up to a point where the iodine number and thiocyanate numbers were the same. This meant that only glycerides and fatty acids with one double bond were present. From this point on the iodine number and the amount of singly unsaturated acids decreased while the peroxide value remained the same. Apparently there was an equilibrium between further reacting peroxides and peroxides furnished by double bonds. The approach of the peroxide maximum took place with a sharp rise in the acid number. It seemed that the formation of aldehydes and the formation of acids from them took place only after a fat reached its maximum peroxide value.

Aldehyde tests during illumination showed a small rise. Apparently they were immediately oxidized to acids. With continued illumination the fats were bleached. Illumination with a lamp for 300 hours was equivalent to seven months of daylight. This indicated that the yellow-red portion of the sun's spectrum was most important in the autoxidation of fats. With the absorption of oxygen there was a small increase in weight. Storing the fats in the dark gave no important changes in physical constants. E. Glimm and E. Seeger. *Fette und Seifen* 48, 322-6.

—— • ——

Soap Washing Tests

Washing tests with three standard soils are reported, in which soap, builders and bleaches were used in various combinations. The specific washing effect of synthetic soaps appears higher than that of fatty-acid soaps. Chlorine is the most effective bleach, with active oxygen compounds second, and sun bleaching a poor third.

Although the usual soap baths cause little change in breaking strength, bleaching causes a definite loss in strength which is proportional to the decrease in size of the polymers of the fibers. Thus natural cellulose fibers have a degree of polymerization of about 2000, which decreases to about 1200 during the preparation of fabric. After 100 washing tests including bleaching with perborate, the degree of polymerization falls to 300-400, to 700-800 with chlorine bleaching, and to about 600 with sun bleaching. Loss of strength through mechanical action is about constant for the different washing formulas. A. Schnyder. *Tech.-Ind. Schweiz. Chem.-Ztg.* 25, 66-73 (1942); through Chem. Abs.

—— • ——

Soap in Camouflage

Of definite importance in war work is a revolutionary type of paint recently developed which consists essentially of a suspension of synthetic resins and pigment in soapy water. This paint is non-inflammable, quick drying, and eliminates noxious vapors. Resin-emulsion paints are now being used to camouflage gun emplacements, munitions depots and large war plants. The dull finish for many army vehicles is supplied by emulsion paints. Bull Assoc. Am. Soap & Glycerine Producers, Sept., 1942.

Solvent Hand Soaps

CLEANSERS with a strong solvent action are useful for many industrial workers, some of whom even resort to the application of straight solvents to take off industrial soil, especially grease, tar, paints, etc. In no case should gasoline or any other solvent be used alone, even though the cleaning effect may appear satisfying. The use of solvents for cleansing is suitable only when they can be prevented from penetrating into the skin, as otherwise they may easily give rise to inflammation and even to serious cases of dermatitis.

Solvents may be used in limited proportions if properly combined with an emulsifying agent. The latter serves to emulsify the solvent together with dirt particles, and so remove them in the rinsing water. Suitable as emulsifiers are soap, sulfonated oils, naphthenic acid derivatives, etc.

Solvent-containing soaps rarely incorporate more than 6-15 per cent of solvents, including the emulsifying agent itself if the latter has penetrating power. Such solvent additions increase the emulsifying power of the soap for oil and fat. Suitable for making the soap base are coconut and palm kernel oils and rosin. The emulsifying agent is mixed with the solvent and incorporated in the warm, liquid soap, preferably in the crutcher. The quantity of emulsifier is usually 1-2 per cent of the soap. Turpentine and white spirit are very suitable solvents, the initial boiling point of which should not be below 100° C. J. Davidsohn and A. Davidsohn. *Soap, Perfumery & Cosmetics* 15, 382-4 (1942).

◆

Soap Lather Test

The amount of lather which a sample of soap will produce can be determined by comparative readings in tall test tubes. The amount of soap is preferably the optimum used in actual washing, often in the proportion of 0.3 gram in 100 cc. of water. The soap is dissolved and its solution brought to the desired temperature. The tube is stoppered and shaken for ten seconds. After 30 seconds the height of lather above the soap solution is read off with a ruler, a similar reading being made again after another period of 10 or 15 minutes. Alkaline salts can be added as in practice if it is desired to parallel the washer charge.

In comparing the results with different soaps, one may use a definite amount of the soap as it exists, or one may adjust the amount taken so that the fatty-acid content always remains the same. The latter method may be said to give the specific lathering property of the soap base. *Soap, Perfumery & Cosmetics* 15, 334 (1942).

◆

Measuring Fat Unsaturation

The rapid determination of the unsaturation of fats such as required in following the course of fat hydrogenation, is made by determination of iodine values by direct titration in the presence of mercuric acetate with a solution of bromine in glacial acetic acid. The color of the bromine is used as indicator.

Reagents.—Bromine: 0.5-1 per cent by volume in glacial acetic acid, kept in a dark stoppered bottle. Mercuric acetate: 2½ per cent by weight in glacial acetic acid. Potassium iodide: 10 per cent aqueous solution. 0.1 Normal sodium thiosulfate solution. Chloroform. Starch solution.

Procedure.—0.3-1 gram of the fat is weighed into a flask and dissolved in 15 cc. of chloroform. After adding 20 cc. of mercuric acetate solution, the solution is titrated directly with the bromine reagent until a permanent faint yellow color is obtained. The concentration of the reagent is determined by introducing 5-10 cc. into 20 cc. of potassium iodide solution, 15 cc. of chloroform, and 20 cc. of mercuric acetate solution, and promptly titrating the liberated iodine with standard sodium thiosulfate solution.

The method gives results of suitable accuracy when applied to the examination of hydrogenated fats containing 10 per cent or less of diethenoid unsaturation. Within this range would be included many samples requiring examination during the later stages of a typical industrial hydrogenation process. H. Jasperson. *J. Soc. Chem. Ind.*, 61, 115-16 (1942).

◆

Fatty Acid Figures

After purification, the saturated fatty acids from C_{12} to C_{18} had the following freezing and boiling points:

Acid	*No. of C Atoms*	*Freezing Point*	*Boiling Point*
Lauric	12	43.86°C.	298.9°C.
Tridecanoic	13	41.76°C.	312.4°C.
Myristic	14	54.01°C.	326.2°C.
Pentadecanoic	15	52.49°C.	339.1°C.
Palmitic	16	62.41°C.	351.5°C.
Margaric	17	60.94°C.	363.8°C.
Stearic	18	69.20°C.	376.1°C.

Boiling points at reduced pressures are also given. W. O. Pool and A. W. Ralston. *Ind. Eng. Chem.*, 34, 1104-5 (1942).

◆

Fatty Acids from Tall Oil

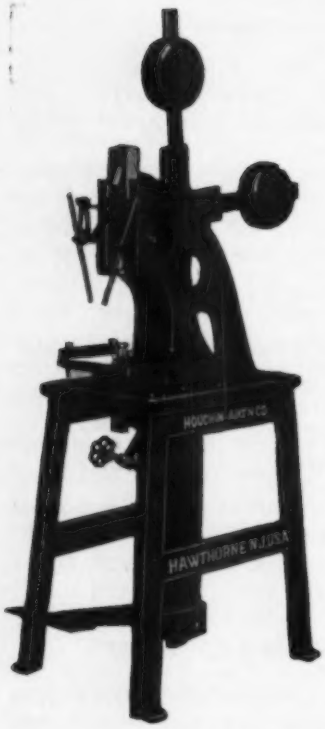
To separate the fatty acids from the resinic acids, both kinds of these acids in tall oil are esterified with a relatively high-boiling alcohol such as glycerol. The fatty acid esters formed are subsequently trans-esterified only with an alcohol such as butyl or ethyl alcohol or methanol, having a lower boiling point than the first alcohol. The fatty acid acid esters so formed are distilled off. Ernest Segessemann, to National Oil Products Co. U. S. Patent No. 2,278,674.

◆

Detergents from Paraffin

Products suitable for use as detergents are formed by treating a hydrocarbon such as paraffin in the molten condition simultaneously with chlorine and sulfur dioxide. The resulting products are hydrolyzed and neutralized with alkali such as a 25 per cent solution of caustic soda. Cortes F. Reed, to Charles L. Horn. U. S. Patent No. 2,276,090.

ON HAND FOR IMMEDIATE DELIVERY

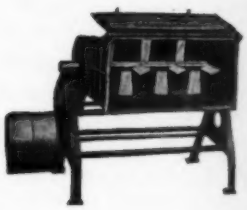


In the present condition of the raw materials market we are glad to be able to give prompt delivery on some of the most needed soap machines. When these are gone it will be hard to replace them.

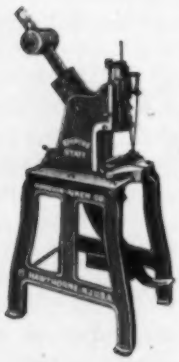
Communicate with us at once if you need any of these

HOUCHIN SOAP MAKING MACHINES

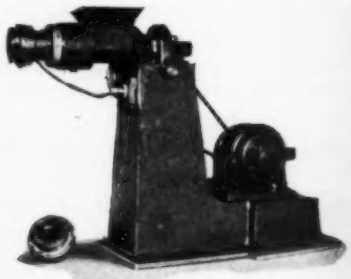
H.A. No. 4 Soap Press
For pressing cakes weighing 2 to 8 ounces. Capacity 10,000 to 15,000 cakes per day.



Tilting Style Amalgamator
For mixing color and perfume into chips before going to the mills or plodders.



H.A. Empire State Soap Press
Takes cakes any size up to 6" long. Capacity 20,000 cakes per day.



No. 90 Plodder — 4" Laboratory Plodder.

Let us know your needs for soap machinery.

HOUCHIN MACHINERY COMPANY, Inc.

Manufacturers of Soap Making Equipment

Fifth and Van Winkle Aves. **Hawthorne, N. J.**

New Synthetic Detergent

SECONDARY sodium alkyl sulfates are now being manufactured on a large scale by the Shell Refining and Marketing Co. Ltd., London, under the name of "Teepol," produced as a by-product of petroleum refining. A mixture of olefines is fractionated and a specific cut which research has shown possesses the optimum balance of wetting and detergent properties, is isolated. By treatment with acid, a crude sulfated product is obtained which, after neutralization, is subjected to special purification processes. The resulting product is a mixture of the sodium salts of the corresponding secondary alkyl sulfates. It is marketed as a clear, pale yellow, water-soluble liquid which clouds below 15-20° C.

The new detergent is neutral in solution, can be employed in acid or alkaline media, and is resistant to calcium and magnesium salts, reducing the surface tension of solutions containing these. Interfacial tension between aqueous solutions and oils, fats and solvents are reduced to values of the order of five dynes per cm. In the scouring of raw wool, "Teepol" used in place of soap is said to give a cleaner, whiter and softer wool. Scouring can be done without soda ash at a pH of 7, thus reducing felting.

The new product is useful in aqueous degreasing solutions on metals in a concentration of 0.5 per cent at about 50° C., and can be used with sodium metasilicate prior to such operations as electroplating, anodizing or lacquering. It is also expected to find use in such diverse products as shampoos, carpet cleaners, foam baths, disinfectants, emulsified oils, abrasive paste cleaners and metal polishes. *The Industrial Chemist* 18, 284-9, 330-36 (1942).

—— • ——

Fat Changes in Storage

Crude, refined and hydrogenated peanut oil, coconut oil, palm-kernel oil, whale oil, linseed oil and rapeseed oil were stored at various temperatures and the changes studied. The influence of temperature on the hydrolysis and oxidation of the oils was noted by changes in acid number, peroxide value and tests for aldehydes. During one year's storage the change in saponification was exceedingly small, less than 1.7 per cent. Refined and hydrogenated oils had even lower values. The oxidation values were always low, but were detectable as changes by sensory tests. The influence of temperature could be divided into two regions: In the temperature range of —24° to 10° C. rise in temperature had little influence on the rate of change, while in the range of 10° to 35° C. rise in temperature had a more pronounced effect. F. Kiermeier. *Fette und Seifen* 48, 326-32.

—— • ——

Seed Oil Extraction

A material such as sesame seed is provided with sufficient water within its structure that ice crystals form on freezing, and is subjected to a slow freezing to form relatively large ice crystals and disrupt the oil cells. It is then dehydrated to produce a firmer structure, subjected to steam at an increased temperature and pressure, and the temperature and pressure suddenly reduced to effect disruption. The oil is then removed. Albert Musher. U. S. Patent No. 2,280,046.

—— • ——

Temperature and pH Variations

The pH values of solutions of about pH 11 to 12 are lowered 1-2 units when they are heated from 16° C. to 85° C. For example, the pH of a 1.25 per cent solution of sodium silicate, Na_2O:SiO_2 1.3.4, dropped from 10.85 at 16° to 9.65 at 85°, and that of a 0.156 per cent solution from 10.1 to 8.6. The pH of a 1.25 per cent solution of sodium silicate, Na_2O:SiO_2 1:2.1, dropped from 11.6 to 10.1. That of a 1 per cent soda-ash solution dropped from 11.1 to 10.0. That of an 0.8 per cent sodium metasilicate solution dropped from 12.4 to 10.6, and of a 0.1 per cent solution from 11.5 to 9.7. The pH value obtained varies somewhat with electrode material, antimony being quite satisfactory in this pH range and glass unsatisfactory.

The buffer capacities of sodium metasilicate, sodium silicate Na_2O:SiO_2 1:3.4, and of soda ash were determined. In the titration curves of metasilicate, deviations were noted which indicate that the structure of metasilicate acid is not always the same. No difference between the micelles of metasilicate and the silicate 1:3.4 was noted. L. J. N. van der Hulst and A. C. Schcuffelen. Chem. Weekblad 38, 134-40.

—— • ——

Metaphosphate Determination

Since small amounts of metaphosphate and pyrophosphate are added to water in order to control scale formation and corrosion, it is desirable to have some method for the determination of 0.01 to 5 p.p.m. of these substances. Conversion of metaphosphate to orthophosphate by boiling the solution for four hours is inaccurate where the initial orthophosphate content is abnormally high.

Pyrophosphate interferes with the determination of iron by the thiocyanate method owing to the formation of complexes with the iron. At low pH, metaphosphate has a greater tendency than pyrophosphate to form such complexes. These facts are made the basis of a colorimetric method for the determination of small amounts of metaphosphate and pyrophosphate in water. The decrease in the ferric thiocyanate color when a fixed amount of iron is present is a measure of the amount of metaphosphate and pyrophosphate present. Details of the method are given. Henry E. Wirth. *Ind. Eng. Chem.*, Anal, Ed. 14, 722-5 (1942).

—— • ——

Sterols from Soybean Oil

An oil such as soybean oil is treated to obtain soapstock as by the use of caustic soda. The soapstock is hydrolyzed with acid and fatty acids distilled off. This may be accomplished by use of superheated steam in vacuum. Sterols such as phytosterols are recovered from the residue. Erhard Fernholz, to E. R. Squibb & Sons. U. S. Patent No. 2,280,815.

NO LONGER A GOOD RULE TO GO BY

MR. SOAP MANUFACTURER

Many changes have been made and many more will be made in the not too distant future as rules, regulations and even our most reliable products no longer fit in the picture.

Undoubtedly you have noticed that many of the oils such as Soy Bean, Linseed, etc., now replacing Coconut Oil need special perfuming attention.

Our laboratory will show you how little it costs to neutralize the raw material odor of your soap with various neutralizing agents we offer or mask the odor with a fragrant perfume.

Send us a sample of your unperfumed soap (cake, liquid or paste) and we will return it perfumed with the scent of your choice.

PERFUMES FOR ALL PRODUCTS

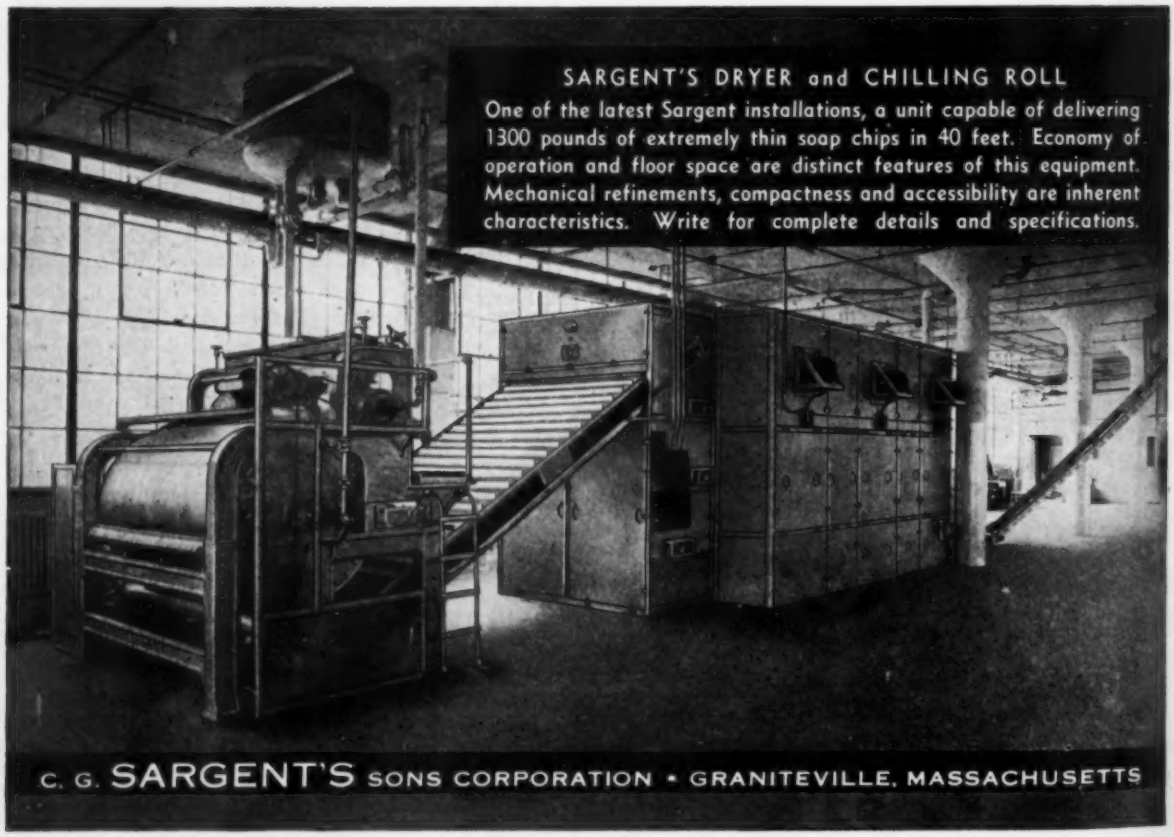
P. R. DREYER INC.

119 West 19th Street

ESSENTIAL OILS — New York, N. Y. — AROMATICS

SARGENT'S DRYER and CHILLING ROLL

One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.



C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

PRODUCTS

Formic Acid in Soap

A readily soluble dry detergent composition which is stable when dry comprises an alkali-metal fatty-acid soap having occluded in it minute amounts of formic acid. The weight of formic acid present should not exceed that corresponding to oxidation of a weight of formaldehyde equal to 2 per cent of the weight of the soap. This amount is insufficient to precipitate the soap, but sufficient to lower the pH of an aqueous solution of the composition below the pH of a similar solution of soap alone. The composition is devoid of formaldehyde and of free alkali. Wm. B. Pratt. U. S. Patent No. 2,279,248.

Refining Soap Stock

Soap stock in which fatty acids are present, free or as alkaline salts, is treated with aqueous alcohol. A chlorinated hydrocarbon such as perchloroethylene is then caused to flow through it in a counter-current stream. Dan McDonald. U. S. Patent No. 2,279,408.

Resinate Detergents

An interesting new group of soluble resinates, valuable for wetting and emulsifying action and as detergent assistants, are offered under the name of "Dresinate" by the Industrial Chemical Division of Hercules Powder Co., Wilmington, Del. The new chemical materials are indicated for use in cleaning compounds, metal-degreasing preparations, disinfectants, and many related chemical specialties. *Chem. & Met. Engineering* 49, No. 9, 192 (1942).

Deodorizing Oils

Animal and vegetable oils are deodorized by introduction into a treating zone in vacuo. The oil is heated in the first portion of the zone to deaerate it, then heated to a higher temperature in another portion of the zone to remove high-boiling constituents. The heated deodorized oil is next passed through a further portion of the zone in contact with a stripping medium. The deodorized and stripped oil is continuously removed from the zone. Dion K. Dean, to Foster Wheeler Corp. U. S. Patent No. 2,280,896.

Floating Toilet Soap

Floating milled toilet soap is produced by assembling in a container a predetermined mass of individual pieces of milled soap and a quantity of gas. The mass of the latter is less than the mass of an equivalent volume at atmospheric temperatures and pressures. The soap particles are cohesively bonded with the entrapped gas in the interstices, by external pressure. The mass of entrapped gas is so proportioned relative to the mass of soap that the specific gravity of the finished product is less than one. Ben B. Hood, to Lever Brothers Co. Canadian Patent No. 407,568.

Water Softening

The operation of a zeolite water softener is controlled by determining the pH value of the effluent from the apparatus and controlling the cycle of operation of the softener in accordance with this pH value. Richard E. Wagner. Canadian Patent No. 407,779.

Soap Stains

Commercial soaps and soap stains on fabrics can be qualitatively compared in ultraviolet light. Examination in ultraviolet light of fabrics contaminated with soaps provides a means of readily distinguishing between soap resulting from washing the fabrics in the usual manner, and a small quantity of soap solution dropped onto the fabric. In the former case any soap left on the fabric as the result of insufficient rinsing causes a uniformly diffused fluorescence, while in the latter case there is a definite stain in ultraviolet light. For qualitative tests soap is extracted from fabrics by alcohol and interfering substances are removed from this extract with ether. Quantitative methods are also given. M. W. Partridge. Quart. J. Pharm. 15, 21-30 (1942); through *Brit. Chem. and Physiol. Abs.*

Antioxidant for Oils, Soaps

A hydroxamic acid, — numerous acids being listed,—is employed to inhibit oxidation such as would otherwise be promoted by contact with metals, of materials such as animal or vegetable fats or oils, soaps, dry-cleaning solvents, petroleum hydrocarbons, etc. The hydroxamic acids may be used in a proportion of 0.0005-0.5 per cent. Melvin A. Dietrich, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,279,973.

Metal Cleaning Aid

A surface-active agent, in this case an alkyl aryl sodium sulfonate with a long alkyl chain possessing wetting and detergent properties, (Nacconol NR), has been shown to exert a definite improvement in the metal-cleaning efficiencies of alkalies and mixtures of alkalies. Through the use of this product cleaning time, operating temperatures, and operating concentrations can be reduced. Cleaning ability is not affected by the hardness of the water. O. M. Morgan and J. G. Lankler. *Ind. Eng. Chem.* 34, 1158-61 (1942).

Emulsifying Agents

Amino alcohols such as 2-amino-1-propanol, 3-amino-3-methyl-2-butanol, 3-amino-2-methyl-4-hexanol, and 3-amino-2-butanol are used for forming salts with fatty acids such as lauric, myristic, palmitic, stearic, arachidic, oleic and ricinoleic acids. These are suitable for use as emulsifying agents, as in compositions for use as insecticides, disinfectants, polishes, creams or inks. Petroleum naphtha may be used as a reaction medium. Byron M. Vanderbilt, to Commercial Solvents Corp. U. S. Patent No. 2,281,177.

PATENTS

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

PATENT AND TRADE-MARK CAUSES

402 Bowen Building, Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,295,065, Separation of Soaps from Oil, patented September 8, 1942 by Hans G. Vesterdal, Elizabeth, N. J., assignor to Standard Oil Development Company. Process for the segregation and recovery of valuable oil and naphthenic acid soap constituents from residuums secured in the distillation of acid treated and neutralized oils comprising adding to a residuum a primary low boiling hydrocarbon solvent under conditions to form a primary solvent phase and a soap phase, removing the solvent phase containing dissolved therein oil constituents and separating the solvent therefrom, separating the soap phase and adding thereto additional primary solvent under conditions to form a second primary solvent phase and a soap phase, removing the second primary solvent phase containing dissolved therein waxy oil constituents and separating the primary solvent therefrom, then treating the soap phase with a secondary solvent having the ability to dissolve the soap constituents, removing the secondary solvent from undissolved impurities and separating the secondary solvent from the dissolved naphthenic acid soap constituents.

No. 2,295,132, Polish, patented September 8, 1942 by Thomas E. Sharp and George W. Flint, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill. An improved free flowing invert emulsion cleansing and polishing composition comprising approximately the following weight percentages of the following constituents:

	per cent
Petroleum distillate (initial B.P. of about 300°F., end point not greater than about 500°F.)	20 to 50
Hard wax	5 to 10
High molecular weight fatty acid	1.25 to 3
Alkali salt of a weak mineral acid	.75 to 2
Morpholine	0 to 1
Water	30 to 60
Abrasive	6 to 10

No. 2,295,505, Germicide, patented September 8, 1942 by Robert S. Shelton, Mariemont, Ohio, assignor to the Wm. S. Merrell Company, Cincinnati. A micro-organism inhibiting composition which comprises as the essential active ingredient, a soluble cetyl trimethyl ammonium compound.

No. 2,295,594, Soap Product and Process, patented September 15, 1942 by Victor Mills, Ivorydale, Ohio, assignor to the Procter & Gamble Company, Ivorydale, Ohio. In a process of manufacturing detergent soap containing a substantial amount of soap in the beta phase, the steps which comprise chilling a soap mass, and while chilling the mass, effectively agitating the same and extruding the mass in continuous bar form, the agitating and extrusion being concluded while the soap mass is at a temperature at which the soap is in a condition of pasty cohesiveness, and is within the temperature range in which the beta phase as shown by X-ray diffraction photograph is formed in substantial amount upon agitating, whereby the sudsing rate of the soap is materially increased.

No. 2,295,595, Particle Soap of Novel Phase Composition, patented September 15, 1942 by Victor Mills, Ivorydale, Ohio, assignor to the Procter & Gamble Company, Ivorydale, Ohio. A soap product in particle form, of formula suitable for household and laundry use, containing a substantial proportion of sodium soap in the beta phase, and having a structure typical of a soap which has been whipped mechanically while at a temperature such that the mass is in a condition of pasty cohesiveness and while within the range in which beta soap is formed on agitation, and which has been maintained, both during the whipping and thereafter until subdivided in particle form, at pressures sufficiently low to avoid substantial compacting of the soap such as would substantially destroy its loosely knit structure, which is readily penetrated and disintegrated by water.

No. 2,295,596, Soap Flake of Novel Phase Composition, patented September 15, 1942 by Victor Mills, Ivorydale, Ohio, assignor to the Procter & Gamble Company, Ivorydale, Ohio. A soap product in flake form, of formula suitable for household and laundry use, containing a substantial proportion of sodium soap in the beta phase, and having a structure typical of a soap which has been whipped mechanically while at a temperature such that the mass is in a condition of pasty cohesiveness and while within the range in which beta soap is formed an agitation, and which has been maintained, both during the whipping and thereafter until formed into ribbons, at pressures sufficiently low to avoid substantial compacting of the soap such as would substantially destroy its loosely knit structure, which is readily penetrated and disintegrated by water.

No. 2,295,831, Detergent Composition, patented September 15, 1942 by Coleman R. Caryl, Riverside, Conn., assignor to American Cyanamid Company, New York, N. Y. A wetting, sudsing and detergent agent comprising a spray-dried mixture comprising 5-15 per cent by weight of a sulfosuccinic ester of an aliphatic alcohol having from 5-8 carbon atoms, and at least 50 per cent by weight of a water-soluble, non-hygroscopic carrier which is stable at spray-drying temperatures and which exhibits when in a saturated solution a pH value between 6.5 and 8.5.

No. 2,296,097, Cleaning Composition, patented September 15, 1942 by Alfred Emiley, New Lenox, Ill. A composition for cleaning and polishing automobile windshields consisting of the following materials in powdered form in substantially the proportions by weight as stated: feldspar 12 parts, calcium carbonate 8 parts, sodium bicarbonate three-quarters of 1 part, and bentonite 3 parts and water sufficient to form a homogeneous, nonscratching paste which is not deleterious to the finish of an automobile.

No. 2,296,121, Germicidal Soap, patented September 15, 1942 by James A. Smith, Philadelphia, Pa. A germicidal soap composition comprising the combination of a soap base having a moisture content within the range of 0 3 per cent to 20 per cent with finely divided crystals of an aromatic sulphon chloramide selected from the group consisting of Chloramine-T Chloramine-B and D-chloramine-T dis-

(Turn to Page 67)

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

November ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1942

Two Puerto Rican Plants Yield New Essential Oils

Usefulness Foreseen in Soaps And in Cosmetic Preparations

SAN JUAN, P.R. — Two plants growing in Puerto Rico are regarded as offering interesting possibilities as sources of essential oils that may be useful in soaps and cosmetic preparations.

The oregano shrub yields an oil which is said to resemble marjoram. The oil is greenish in color, with a strong spicy aroma, and is reported to contain 52% phenols, with no aldehydes or ketones. It is soluble in 80% alcohol. Suggested applications include shaving lotions, hair lotions, and soaps.

The second plant — guayabacon — yields an oil described as having an aroma resembling a combination of the oils of bay, clove, eucalyptus, and pimenta. As originally distilled, the oil is pale yellow, but it turns green on standing. Composition is described as 78.5% cineole, 5% phenols (principally eugenol), 10% aldehydes and ketones, and possibly a trace of menthol.

Foundry Patterns Altered Or Repaired with Plastic

ARLINGTON, N. J. — Wood and metal foundry patterns can be repaired or altered with the aid of a plastic material previously used chiefly to strengthen box toes in shoes, it is claimed by a manufacturer here.

A piece of the plastic is cut to the desired shape and wet with a solvent, after which it can be readily molded to the form required. When dry, it is said to have a hard, even surface which can be lightly sanded and shellacked. It is believed that use of the plastic may permit the salvaging of many damaged patterns and facilitate alterations.

Plastic-repaired patterns are reported to have demonstrated their effectiveness in actual foundry practice.

Full Replacement of Acacia By Pectin Thought Possible

KNOXVILLE, Tenn. — Broader utility for pectin as a means of replacing acacia in such preparations as mineral oil emulsions is foreseen as a result of studies recently reported here. Earlier research had indicated that approximately half of the acacia could be replaced by pectin, (See U.S.I. ALCOHOL NEWS, May, 1942.)

It now appears that permanent emulsions of mineral oil can be prepared, in which the acacia is entirely replaced by pectin, provided suitable precautions are observed. A typical emulsion has these proportions:

Liquid petrolatum	50 cc.
Pectin	1 gm.
Syrup	10 cc.
Vanillin	0.004 gm.
Alcohol	6 cc.
Distilled water	34 cc.

New Listing Issued on Surface-Active Agents

WASHINGTON, D. C. — A new compilation of surface-active compounds, recently completed here, gives comprehensive data on these materials from the standpoint of their interest to the manufacturers of cosmetics and pharmaceuticals.

Compounds of this general classification are extensively used as wetting, dispersing, and emulsifying agents, penetrants, detergents, and preservatives. The new listing gives the trade names and description of a large number of such compounds, while other sections indicate suggested uses and the chemical types of the compounds.

Copies of the complete 60-page report are available at a cost of 50 cents each. U.S.I. will gladly refer readers to a source from which they may be obtained.

Ethyl Acetoacetate Can be Alkylated by Tertiary Butyl Group

DURHAM, N. C.—The tertiary butyl group can be successfully introduced into ethyl acetoacetate by the aid of boron trifluoride, it has been discovered here. Following other experiments on the introduction of alkyl groups into ethyl acetoacetate, it has now been found that this compound can be alkylated by tertiary butyl alcohol or tertiary butyl ethyl ether. This reaction is described as being of special interest in view of the recognized difficulties in introducing tertiary alkyl groups into active methylenic compounds.

In a typical procedure, a mixture of 0.5 mole of tertiary butyl alcohol and 0.5 mole of ethyl acetoacetate was saturated with boron trifluoride at 0°, and allowed to stand for 6 hours at room temperature. A 14% yield of alkylated beta-keto ester was obtained. An ester-alcohol exchange apparently occurred, the product analyzing for tertiary butyl alpha-tertiary-butylacetoacetate. This product, on ketonic hydrolysis, yielded methyl neopentyl ketone, which was identified as the semicarbazone and 2,4-dinitrophenylhydrazone.

Ethyl Oxalacetate Can be Prepared by Simple Procedure

Sodium Derivative, Produced by U.S.I., Used as Starting Point

Ethyl oxalacetate — extensively used as an intermediate in dyestuff and pharmaceutical manufacture, can be prepared from ethyl sodium oxalacetate by a simple procedure described by a reader of U.S.I. CHEMICAL NEWS. The ethyl sodium oxalacetate is first suspended in ether, and dilute sulfuric acid is added after cooling the mixture. The remainder of the procedure follows conventional lines, using a low vacuum pump.

Stability of Sodium Salt

While chemists have long recognized the interesting possibilities of ethyl oxalacetate in organic synthesis, exploitation of its usefulness was at first hampered by its relative instability. This difficulty was overcome by U.S.I.'s production of the sodium derivative, which has a considerably higher degree of stability. The sodium derivative can be used for most of the purposes for which ethyl oxalacetate itself is suitable. In cases where the

(*Continued on next page*)

Ethyl Formate Increases Yield of Diethylmercury

In the preparation of diethylmercury from ethyl iodide and sodium amalgam, yields are increased about 50% when ethyl formate is used as the solvent instead of ethyl acetate, it has been reported as a result of recent studies. Similar increases in yield were observed when acetone is used as the solvent.

In preparing dimethylmercury by a similar procedure from methyl iodide, the opposite result was obtained. In this case, studies appeared to confirm the usefulness of the customarily used ethyl acetate, since ethyl formate or acetone decreased the yield.

U.S.I. Pure Alcohol is subjected to rigid tests to assure conformity with U.S.P. standards. At left is shown the titration step in a test to determine freedom from acidity. Photo at right shows examination of a sample to assure its freedom from alkaloids.

ADVERTISEMENT—*This entire page is a paid advertisement.*

November ★ **U.S.I. CHEMICAL NEWS** ★ 1942

Specific Gravity Tests On Petroleum Oils Made By Falling Drop Method

EL DORADO, Ark. — The falling drop method of densimetry offers a rapid, convenient, and accurate method of determining the specific gravity of petroleum oils, it has been discovered by a research worker here.

The procedure, which consists essentially in timing the fall of a drop of known size through a liquid immiscible with it, has been employed for a number of years in clinical techniques for determining the specific gravity of body fluids. Its adaption to the investigation of petroleum oils presages a far wider field of usefulness.

Range and Accuracy

In the petroleum oil tests, the liquid through which the drop falls is a solution of ethanol and distilled water. The percentage of ethanol by volume ranges from 45 to 98%, depending on the specific gravity range in which the test specimen is expected to fall. With these percentages of ethanol, specific gravities can be determined over the range from 0.836 to 0.993 at 25°/25°C.

Accuracy of the method is expected to be within ±0.0010 unit of specific gravity. A particular advantage of the method is that only a few drops of oil are required for the determination, thus making it adaptable to the small volumes sometimes obtained in analytical distillations or extractions.

Ethyl Oxalacetate Made From Sodium Derivative

(*Continued from preceding page*)

pure ester is desirable, however, the procedure outlined provides a simple means of preparing it as needed, while still benefiting by the greater stability of the sodium derivative during storage periods.

Use in Analysis

A number of the more important applications of ethyl oxalacetate and its sodium derivative were outlined in the July, 1942, issue of U.S.I. CHEMICAL NEWS, copies of which are available on request. A novel use in analytical procedures has recently come to light. When ethyl oxalacetate is dissolved in acetic anhydride, a brilliant blue color results in the presence of a trace of alkaline substance, such as sodium acetate, strychnine, nicotine, etc.

New Chemical Products For Crime Detection

Progress in the science of criminological investigation is expected to be facilitated by the development of new chemical materials undergoing formulation at the McDaniel Laboratories.

These new forensic chemicals, under the trade name of Scotland Yard Inspector, have been developed by J. Frank McDaniel, formerly attached to New Scotland Yard and the French Sureté through the U. S. Intelligence Department. In addition to their usefulness in crime detection, these materials are of interest as an outlet for some of the products of the chemical industry.

Among these new materials is a developer for latent fingerprints, described as having special affinity for the chemical constituents of perspiration and bodily secretions: butyric acid, formic acid, acetic acid, phosphorus, and sodium chloride. The impressions, according to Mr. McDaniel, may be developed in colored backgrounds for lifting on dactyloscopic foil, examination by ultra-violet ray and orthochromatic photography, or may be fixed permanently on the object touched by the fingers.

Another device is a fuming apparatus for developing fingerprints on greasy surfaces, blotters, and fabrics, by automatically absorbing moisture from the material, a fresh supply of chemicals being replaced in paper cartridge form.

Other new products include an inkless system for the registration of fingerprints, which may be of interest in registering of female employees; and materials for fluorescent analysis under ultra-violet light of inks, papers, erasures, bloodstains, traces of bodily secretions, ballistics, etc.

Describe Determination of Thiamine in Pharmaceuticals

CHICAGO, Ill. — A new procedure for the assay of thiamine in pharmaceuticals has been described here. The technique involves the formation of a colored compound when the vitamin is reacted with diazotized ethyl para-aminobenzoate. The color can then be extracted by means of isoamyl alcohol for comparison in a photometer.

It is reported that this procedure has been successfully applied in the determination of thiamine in a wide variety of products.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new metal cleaner is described as suitable for use on all kinds of metal. It is said to coat the metal with an invisible oil film which affords protection during storage. Material can be used alone or diluted with water or kerosene. **(No. 630)**

U S I

A paper base plastic is said to have exceptionally high tensile strength, comparing favorably in this respect with aluminum on a weight basis. Plastic is also highly resistant to moisture and scratching, remains stable at high and low temperatures, and has a smooth surface that eliminates the need for special finishes, according to the manufacturer. **(No. 631)**

U S I

A wrapping material is described as especially useful for the protection of metal parts. It is said to be moisture-proof and resistant to oils and acids, and to aid in retarding oxidation and rusting. **(No. 632)**

U S I

Concrete repairs can be easily made with a new compound that has high compressive strength and extreme resiliency, according to the manufacturer. It is said that the compound can be applied without chipping and cutting out of the old surface, and that it will stand up under heavy loads. **(No. 633)**

U S I

An oil-absorbent compound is described as having many advantages for floor cleaning. According to the maker, it is more effective than wood shavings, reduces slip hazard, is odorless and dustless, can be reused, and will not burn when oil-soaked. **(No. 634)**

U S I

Two new titanium pigments of the rutile type have been placed on the market. Maker reports that they have high opacity and are non-chalking, and suggests their use in camouflage paints and war finishes for equipment that must stand exterior exposure. **(No. 635)**

U S I

A fast-drying linseed oil is said to have the advantage of quick bodying, and to be suitable for use in paint, varnish, ink, leather finishes, oilcloth, and linoleum. **(No. 636)**

U S I

Concentrated peppermint oil will soon be placed on the market as a possible substitute for menthol crystals and synthetic menthol. It is said that the material is produced by fractional redistillation of natural peppermint oil to remove a large percentage of the non-menthol constituents. **(No. 637)**

U S I

Frosting of Lucite, to produce lettering or ornamental designs, can be readily carried out by means of a simple process involving the use of ethanol, it is claimed in a recent patent. **(No. 638)**

U S I

A moisture remover is intended to allow only dry air to enter oil or chemical storage tanks when the level of the liquid drops, thus helping to prevent absorption of moisture by the liquid. Special types are said to be available for transformers and other equipment in which the presence of moisture is harmful. **(No. 639)**

U.S.I INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND STREET, NEW YORK — CHEMICALS INDUSTRIAL ANTI- USI SOLVENTS ALCOHOLS FREEZE SERVICE TO INDUSTRY — BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS
Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined

Ethanol (Ethyl Alcohol)
Specially Denatured—All regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
U.S.I. Denatured Alcohol
Anti-freeze
*Super Pyro Anti-freeze
*Solox Proprietary Solvent
*Solox D-I De-icing Fluid

*ANSOLS
Ansol M
Ansol PR

ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

OTHER PRODUCTS
Acetone
Collodions
*Curbay B-G
*Curbay Binders
*Curbay X (Powder)
Ethylene
Ethylene Glycol
Nitrocellulose Solutions
Potash, Agricultural
Urethan
*Vacatone

*Registered Trade Mark

New Patents

(*From Page 63*)

persed throughout the soap, the aromatic sulphon chloramide crystals being coated with mineral oil and being in such proportion as to release from 11.5 per cent to 13 per cent of chlorine by weight thereof when Chloramine-T is used, from 13 per cent to 14.5 per cent of chlorine by weight thereof when Chloramine-B is used, and from 28 per cent to 30 per cent of chlorine by weight thereof when Di-chloramine-T is used, when the composition is in contact with water.

No. 2,296,689, Abrasive Scouring Powder, patented September 22, 1942 by Paul W. Soderberg, Wyandotte, Mich., assignor to the J. B. Ford Company, Wyandotte, Mich. A substantially non-caking abrasive scouring powder comprising soap, a silica-containing abrasive selected from the group consisting of silica flour, volcanic ash, tripoli, feldspar, pumice and pumicite, and an alkali metal salt selected from the group consisting of alkali metal carbonates, bicarbonates, borates, silicates and phosphates, the abrasive and the salt forming a relatively hard, set mass or cake when normally mixed in technically dry, powdered form and subjected to atmospheric conditions of relatively high humidity and temperature, and 0.1 to 5 per cent bentonite present to counteract such cake-forming capacity.

No. 2,296,690, Abrasive Scouring Powder, patented September 22, 1942 by Paul W. Soderberg, Wyandotte, Mich., assignor to the J. B. Ford Company, Wyandotte, Mich. A substantially non-caking abrasive scouring powder comprising soap, an abrasive material selected from the group consisting of volcanic ash, silica flour, pumice, pumicite, tripoli and feldspar, a minor proportion of detergent material selected from the group consisting of water-soluble, finely divided alkali metal carbonates silicates, phosphates and borates, the abrasive material and the alkali metal salt normally forming a caked mass when subjected to atmospheric conditions of relatively high humidity and temperature, bentonite in the proportion of 0.1 to 5 per cent, and tetrasodium pyrophosphate in the proportion of 1 to 4 per cent, the last two ingredients being present to prevent caking of the composition.

No. 2,296,767, Detergent Composition, patented September 22, 1942 by Coleman R. Caryl, Riverside, Conn., assignor to American Cyanamid Company, New York, N. Y. A detergent composition in solid cake form comprising from 5 to 15 per cent by weight of a water-soluble salt of di-(normal octyl) sulfosuccinate, the remaining 95 to 85 per cent by weight of the detergent composition comprising boric acid and an alkali metal polyphosphate, the alkali metal polyphosphate being present in amounts of from about 20 to 30 per cent by weight of the boric acid.

No. 2,296,794, Treating Vegetable Oils, patented September 22, 1942 by Norman F. Kruse, Elmer B. Oberg, and Wendell E. Mann, Decatur, Henry R. Kraybill, West Lafayette, and Kenneth E. Eldridge, La Fayette, Ind., assignors of one-half to Central Soya Company, Inc.. Fort Wayne, Ind., a corporation of Indiana, and one-half to Purdue Research Foundation, West Lafayette, Ind. The process of obtaining sterols from a sterol-containing vegetable oil, which consists in adding to such oil a saponifying agent in an amount sufficient to neutralize the fatty acids and precipitate the phosphatides but insufficient to saponify the oil, and also adding a filter aid, then separating most of the oil from the solid matter, then extracting the solid matter with an organic solvent which dissolves fats and sterols, and recovering sterols from the extract so obtained.

No. 2,296,842, Apparatus for Inserting Indicia in Soap, patented September 29, 1942 by James Garvey, Arthur Garvey, and Horace Maseline Garvey, Vancouver, British Columbia, Canada. A method of inserting indicia in soap bars, comprising forming plastic soap into bars, forming a hole in the bars the shape of the indicia, filling the hole with a water-soluble material, subjecting the bar to external pressure after the material is inserted therein. and cutting each bar into lengths.

No. 2,297,557, Fungicidal Derivatives of Acetanthranilic Acid, patented September 29, 1942 by William F. Hester, Drexel Hill, and W. E. Craig, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa. A fungicidal composition containing as an active fungicidal agent an acetanthranilate selected from a member of the class consisting of acetanthranilic acid and salts of acetanthranilic acid.

No. 2,297,636, Composition for Devitalizing Microorganisms, patented September 29, 1942 by Randolph Norris Shreve, West Lafayette, Ind., and Miller Woodson Swaney, Elizabeth, N. J., assignors to Mallinckrodt Chemical Works, St. Louis, Mo. A microorganism devitalizing composition comprising pyridylmercuric chloride.

Soap Cost re Glycerine

Some soapmakers deduct from the ordinary soap costs the full net value of the glycernie in the spent lyes. The amount of glycerine obtainable as crude from a ton of soap is first determined, and its the market value, less the glycerine plant expenses, is credited to the soap. Apparently this method of calculation is considered sound by the firms that use it, but it implies that one of the factory's products is sold without profit, since the spent lyes are in effect sold by the soap end of the business to the glycerine plant at a price far above a figure which the firm would feel justified in paying for similar lyes from outside. The soap costs obtained in this way are the lowest possible.

A better plan would appear to be to charge the ordinary costs of materials and operations to soap, and then make a correction by allowing a transfer price for the spent lyes, this being fixed so as to allow a reasonable profit to the glycerine department. J. H. Wigner. *Soap, Perfumery & Cosmetics* 15, 269-72 (1942).

Bleach Liquor Storage

Monel metal has been found satisfactory for holding sodium hypochlorite solutions containing not more than 3 grams per liter (0.3 per cent) of available chlorine, or calcium hypochlorite solutions containing not over 2.5 grams per liter (0.25 per cent). Inconel is more resistant than Monel metal but its use is not of practical importance in most textile applications. From 1 to 2 fluid ounces of sodium silicate solution (1.4 sp. gr.) to 100 gallons of bleach inhibits corrosion of these metals without reducing bleaching action. Earthenware, glass-lined or cement-lined tanks should be used for the preparation and storage of stock hypochlorite bleach solutions.

Hydrogen peroxide which has the advantage of being noncorrosive, is decomposed catalytically by some metals. Experiments showed that both nickel and Monel have a negligible catalytic effect on the rate of decomposition of peroxide solutions. *Am. Dyestuff Reporter* 31, 446-8, 460-2 (1942).

Ask the SCHUNDLER Technical Men about BENTONITE

When you have a question about Bentonite and its use present it to the Schundler technical staff, the largest scientific staff working in the best equipped laboratory in the Bentonite industry. Your questions will be courteously and conscientiously answered.

In using Schundler Bentonite, you are sure not only of technical service but also of a strictly first quality product and the experience of a pioneer producer.

Bentonite in Soap

Some of the properties of Bentonite which make it useful as an addition to Soap are: (1) Bentonite increases the dispersing power of the soap in water; (2) It facilitates the saponification of the fat mixture in the soap making process; (3) Detergent power and adsorbtive properties increased; (4) Steps up power to soften hard water; (5) Reduces the content of free alkali.

Insecticides and Fungicides

Bentonite has been successfully and extensively used in connection with sulphur in fungicidal sprays . . . either as a dusting powder or as a suspension in water. Likewise, it has been successful in such compounds as Pyrethrum, Sodium-Silico Flouride, Copper, Lead and Arsenical Compounds.

There are several types of Bentonite . . . one for your special requirements. Samples, as well as technical suggestions, cheerfully furnished.

F. E. SCHUNDLER & CO., INC.

528 RAILROAD STREET • JOLIET, ILLINOIS

Schundler

STEARIC ACID
RED OIL

Saponified — Distilled

Hydrogenated Fatty Acids (Hydrex)

Coconut Oil Fatty Acids
Palm Oil Fatty Acids
Corn Oil Fatty Acids
Specialty Fatty Acids
Tallow Fatty Acids

Pitch
Glycerine
White Oleine

W. C. HARDESTY CO., Inc.

41 East 42nd Street New York

FACTORIES: Dover, Ohio—Los Angeles, Calif.—Toronto, Canada
CALIFORNIA OFFICE: 5636 East 61st Street, Los Angeles
Cable Address: "HARDOIL"

EQUIPMENT AND BULLETINS

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York. mentioning the number of the item.

909—Toilet Goods Survey

The 12th edition of Modern Magazines *Survey of Beauty*, which traces brand popularity in 48 toilet goods classifications by income group, city size, age of purchaser, prices paid and place of purchase is now available. Copies of this 64 page Survey may be had by writing Modern Magazines, 149 Madison Ave., New York.

910—Saran Pipe Circular

Hodgman Rubber Co., Framingham, Mass., who recently announced Saran plastic tubings and fittings, have just brought out Saran pipe. Saran pipe is claimed to be the first practical thermoplastic pipe, and was developed for chemical and industrial use. Its purpose is to replace strategic materials such as metal and rubber for urgent war needs. Information as to how to weld and thread it is contained in bulletin P-1, which is available by writing. The new pipe comes in sizes from ½ inch to 2 inches.

911—New Bulletin on Soap Uses

The Association of Soap & Glycerine Producers, New York, has released the second in a series of special bulletins on "Soap Uses in War Industries." Among unusual applications mentioned is the use of a soap-bitumen emulsion in making clay blocks employed in erecting mud huts in military areas. Bituminous emulsions painted on roadways in Britain, then sprinkled with pulverized coal as a "blackout aid" to camouflage highways from enemy bombers are mentioned. And soap is said to be officially listed by the Office of Civilian Defense as an essential part of poison gas decontamination equipment.

WPB Revokes L-171

Conservation Order L-171, which set up percentage production control over toiletries and cosmetics, was revoked on October 13, because, as the WPB put it, "cosmetic output is controllable through allocation orders covering chemicals used." While the revocation removes all restrictions on the manufacture of cosmetics, and this includes shampoos, the net effect on the consuming public will be nil. Limitations on materials entering into cosmetic manufacture will result in approximately the same output as at present.

Getting back to the case of shampoos, manufacturers of this item were "straight-jacketed" by L-171, and are greatly relieved at its revocation. While those requiring coconut oil, glycerine and alcohol are still restricted, they feel they have more freedom now and are encouraged. The shortage of raw materials is still a drawback to the shampoo maker, but seemingly not as severe as L-171 was. It was also reported that shampoo manufacturers are trying to devise substitutes for raw materials that have been cut off, although little success along these lines is yet reported. At the same time, it was announced by the WPB that "certain specific difficulties and inequalities will be removed" and the industry as a whole will have more leeway in the use of available materials. In addition the Army and Navy will be free to purchase necessary supplies of shaving cream and tooth paste without any present restriction on civilian use.

It was emphasized by the Chemicals Branch of WPB that fairly rigid restrictions on cosmetic packaging could be expected and that strict curtailment of luxury toiletries that use critical materials would be forthcoming. Cosmetics containing alcohol, glycerine, imported oils, waxes and higher grades of talc were singled out for mention in this category. Many other materials going into the manufacture of cosmetics are reasonably free and are expected to continue available, the WPB stated.

3rd Quarter Soap Sales Up

Soap sales for the third quarter of 1942 were up sharply both from points of view of dollar and weight volume over the second quarter. Deliveries of soap other than liquid totalled 744,883,824 lbs.; liquid soap fell to 539,792 gallons. Total dollar volume was $94,672,287; $94,057,659 for soap other than liquid and $614,628 for liquid soap. Although weight and gallon totals for the third quarter were below those established in 1941, the dollar volume was greater. However, the third quarter deliveries, 1942, were above the third quarter average for the 5-year period 1935-1939.

P&G Report Earnings

Procter & Gamble Co. reported a net profit of $4,515,649, equivalent to 68 cents a common share for the quarter ending September 1. This compares with $6,974,603 or $1.06 a share last year. A provision of $3,600,000 was made for Federal income taxes. These figures do not include earnings of English and Canadian companies, except as made available in this country in United States funds.

Soap Oil Cars Rate High

Soap making fats and oils, as well as caustic soda and caustic potash, when moved in tank cars, will receive transportation priority immediately following that given material for Army, Navy, Maritime Commission, War Shipping Administration, and Lend-Lease, under "Certification of Necessity for Priority Action No. L," issued in a WPB directive to the ODT.

Stabilizing Fats

Fats and oils are stabilized by adding to them an antioxidizing concentrate obtained by distilling a fatty substance containing antioxidizing agents, under a high vacuum.

VALENCIA—*The Standard of American Pumice*

It's not a substitute for the now unobtainable Italian pumice but is chemically and physically equal in every respect. Note its comparison.

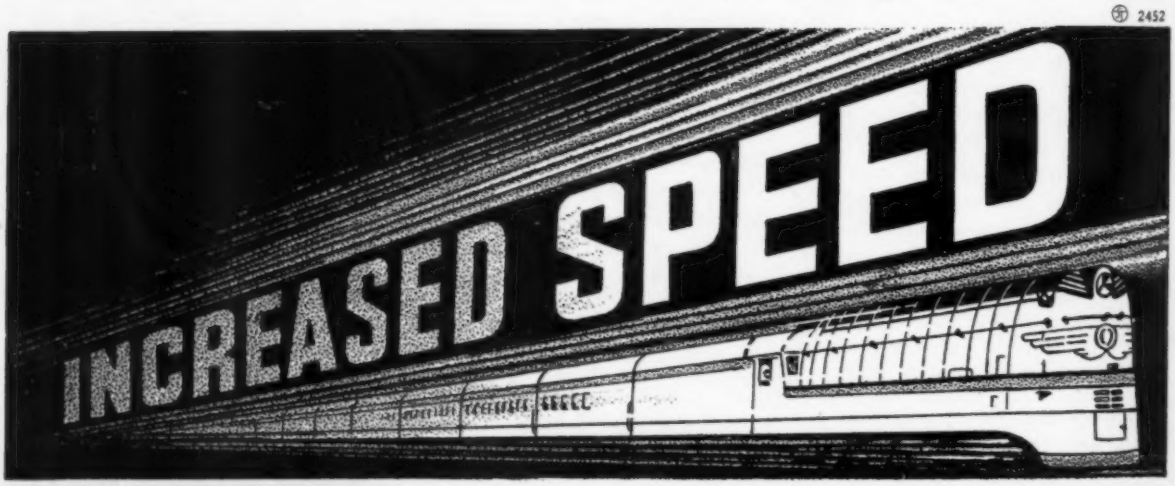
	American Pulverized Per Cent	*Italian Select Per Cent*
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulfuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

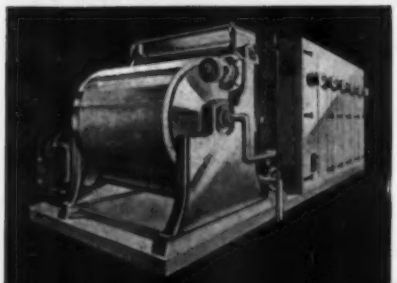
Valencia is a true pumice stone and not a volcanic ash. *VALENCIA PUMICE IS A UNIFORM PRODUCT IN ITS HIGH QUALITY. ITS SUPPLY IS UNLIMITED.*

STANDARDIZE ON VALENCIA FOR ALL TIMES
The Valencia Mine at Grants, New Mexico — an inexhaustible deposit, and with grinding facilities to take care of every need.

PUMICE CORPORATION OF AMERICA
GRANTS, NEW MEXICO, U. S. A.
DISTRIBUTED BY
WHITTAKER, CLARK & DANIELS, INC. • 260 WEST BROADWAY • NEW YORK CITY
WAREHOUSES: DETROIT, MICHIGAN and SOUTH KEARNY, N. J.

2452





In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog that is yours for the asking.

PROCTOR & SCHWARTZ INC · PHILADELPHIA

NEW PROCTOR *Flake Soap* SYSTEM

Mildew Proofing

THE demand for mildew-proofed fabrics has increased so tremendously from war needs that many new problems relating to their production have arisen. The most widely used agent in treating sandbags, duck, camouflage cloth and similar materials is copper naphthenate, which fulfills the essential requirements for burlap and cotton duck with 0.8 per cent of copper in the treated fabric. Copper ammonium fluoride is also a good protective agent at the same concentration of copper. In the cuprammonium process, 1.5 per cent of copper in the cloth is specified.

Since the stock piles of scrap copper which have been used in the preparation of the protective agents are becoming low, substitute compounds will have to be sought. Attention has been directed to surplus commodities such as rosin, turpentine and pine tars, all products which are now available in large quantities. Compounds such as pentachlorophenol have been tried. While some of these materials give promise as mildew preventives, none, as used at present, is as satisfactory as the copper compounds already in use.

One of the requirements of a mildew-proofed fabric is that it not be toxic to the user. Tests should be made to determine toxicity such as patch tests, most important when the fabrics are to be made into wearing apparel or bedding.

Shorter tests for mildewproofness are desirable. Using the usual bacteriological technique, one method is to expose strips of fabric to the mold, *Chaetomium globosum*. After an incubation period of 7 days the cultures are examined. The untreated strips run as controls should be more or less covered with a gray-green tufted growth of mold. The treated strips may show amounts of growth varying from none to good, depending on the effectiveness of the mildewproofing treatment. These tests may also be accompanied by breaking-strength measurements.

Where the mildewproofing agent is a copper compound, the copper content should not fall below a certain minimum. The method of analysis consists of ashing the material to remove organic matter, dissolving the residue in nitric acid, and determining copper by titration. To determine whether the copper is evenly distributed and whether it is present in a form that gives adequate protection, it is usually considered necessary to run a mold test in addition. Chas. W. Hock and Milton Harris. *Textile Colorist* 64, 401-3 (1942).

—— • ——

Small Oil-Bleach Plant

The plant for bleaching oils and fats to be used in soap is best placed near the melting-out tanks. For palm oil, air-bleaching is commonly used and gives satisfactory results for many purposes. A circular tank 7-10 feet high is used. It should have a closed steam coil and an air coil perforated with numerous small holes to give finer bubbles than used for mere agitation. The air coil is connected to an air pump capable of delivering a fairly large volume of air at 10-15 pounds pressure. Cobalt borate serves as catalyst in a new plant, but is usually omitted after a few runs, any rust on the metal acting as a good catalyst. After a few runs, scale is completely cleaned off, leaving the metal bright, but wear from removal of iron is so small that it may be disregarded. No lead pipes or fittings are permissible, as lead soaps formed would inhibit bleaching.

Chrome bleaching with sodium bichromate and sulfuric acid, is an old method but gives good results, especially with soft palm oils and with tallow. A wooden lead-lined tank is required, provided with a perforated lead coil for agitation and one for closed steam.

The outfit for bleaching with activated Fuller's earth,—a process which has largely superseded chrome bleaching,—is more elaborate and possibly not suitable for small works. It consists of an iron tank in which the oil is mechanically mixed with the adsorptive earth, a pump, and a filter press for filtering off the earth. The press cake retains a large percentage of oil which cannot be entirely removed. A large proportion can be recovered by forcing steam through the press when filtration is completed. N. G. Weir. *Soap, Perfumery & Cosmetics* 15, 380 (1942).

—— • — —

Germicides in Bottle Washing

Standards for mechanical bottle washing can be compared only when concentrations of caustic soda and of other added substances and time of treatment are expressed in terms of some common unit. Caustic soda is the most potent of the commonly used alkaline germicides. The efficiency of a solution may be expressed in terms of the number of minutes required to kill the spores of *Bacillus metiens*. When soda ash or trisodium phosphate is added to the caustic soda solution they are less efficient than an equal amount of caustic but nevertheless increase the potency of the solution. An equation is given expressing the mathematical relationship of the various factors. C. R. Arnold and Max Levine. Iowa State Coll. J. Sci. 16, 519-43 (1942); through Chem. Abs.

—— • ——

Hypochlorite Deterioration

Sodium hypochlorite solutions deteriorate the least when stored in amber glass, less efficient in protection are blue, then green, then clear glass containers. The majority of ten commercial preparations studied yielded approximately their maximum utility when used a month or so after purchase. Storage in bottles in direct sunlight results in very rapid deterioration, little available chlorine being left after three weeks' exposure in clear, green or blue glass. Better but varied results were obtained in amber-glass containers. When stored for 9 months at the temperature usually used for food preservation in the home, the products deteriorated to the extent of 1.06-22.03 per cent. Elmer M. Pein and L. Wait Rising. J. Am. Pharm. Assoc. 31, 183-5 (1942).

CRESYLIC ACID — FORMALDEHYDE

AROMATICS

Phenyl Ethyl Alcohol
Methyl Acetophenone
Acetophenone
Geranyl Acetate
Yara Yara
Phenyl Ethyl Acetate
Amyl Cinnamic Aldehyde
Benzyl Acetate
Benzophenone
Nerolin

For Soaps, Perfumes, Cosmetics, etc.

ASSOCIATED COMPANIES
KAY-FRIES CHEMICALS, INC. NEW YORK, N. Y.
CHARLES TENNANT & CO. (CANADA) LTD TORONTO, CANADA

AMERICAN-BRITISH
CHEMICAL SUPPLIES, Inc.
180 MADISON AVE., NEW YORK

Boost Your Soap Powder Sales
WITH THIS
FEDERAL ALL-PLASTIC SOAP DISPENSER

AVAILABLE FOR IMMEDIATE DELIVERY

Made of amber-transparent Tenite plastic . . . strong, long-wearing, light in weight ● Streamline styling for modern eye appeal ● Positive agitator prevents packing . . . insures smooth, even flow ● Non-clog, thrust-in discharge valve easily taken apart for cleaning ● Heavy brackets for direct mounting to wall or pipe ● Wide-opening top for easy filling ● Use your own nameplate ● Lock top (optional) ● Capacity: one quart ● Overall size: 8" high x 3¼" x 3½" ● Fully guaranteed.

Designed for: industrial plants, public buildings, office buildings, schools, theatres, stores, gasoline stations, etc.

(WE DO NOT SELL SOAP POWDER)

FEDERAL TOOL CORP., 400 NORTH LEAVITT STREET, CHICAGO, ILLINOIS

Fat Consumption Holds at High Level First Half 1942

CONSUMPTION of animal and vegetable fats and oils used by the soap industry during the first six months of 1942 amounted to 1,012,249,000 pounds, according to a preliminary report recently released by the Bureau of Census of the U. S. Department of Commerce. Since 1941 figures were reported for the entire year rather than bi-annually, the only basis for comparison is the six months equivalent of the year's total. This amounts to 1,071,928,000 pounds, or 59,679,000 pounds more than were consumed in the first six months of 1942. However, while 1942 figures are running behind those of the peak year, 1941, they are still ahead of the half yearly total for 1940. Total consumption for 1940 was 1,722,634,000 pounds, giving a 8,621,317,000 pound total as an average six months figure for 1940. The industry's position as the primary fat consumer was retained, this year, soapers continuing to take 36½ per cent of the total of all fats and oils consumed for the first six months of 1942.

Inedible tallow comprised the largest single soap stock, registering 61.5 per cent of all fats and oils going into the soap kettle. In the first six months of 1942, 622,539,000 pounds of inedible tallow were used as compared with a total for the whole year of 1941 of 1,057,303,000 pounds. If tallow consumption continues at this rate, the total for the current year will exceed the 1941 figure. Grease, with a figure of 169,273,000 pounds, normally holding third place in the consumption list, moves into second place this year, the spot usually occupied by coconut oil. Doubling this figure this would mean an increase over the amount of grease used by soapers in 1941, but would fall far short of making up the severe drop in the use of coconut oil. In 1941, 484,124,000 pounds of coconut were consumed against only 98,512,000 pounds for the first six months of 1942.

Next, in order of importance is palm oil. In 1941 129,871,000 pounds were consumed. In the first

Factory Consumption of Primary Animal and Vegetable Fats and Oils, by Classes of Products, During the First Six Months of 1942

(Quantities in thousands of pounds)

KIND	TOTAL	Shortening	Oleomargarine	Other Edible Products	Soap	Paint and Varnish	Linoleum and Oilcloth	Printing Inks	Miscellaneous Products	Loss (including oil in foots)
Total	2,745,583	579,114	146,502	258,932	1,012,249	282,278	69,363	10,329	297,806	89,010
Cottonseed oil	566,801	308,123	75,472	133,725	1,762	108	.....	57	1,927	45,627
Peanut oil	28,216	16,865	653	5,345	297	.....	.....	.....	2,850	2,206
Coconut oil	132,678	4,850	3,491	13,315	98,512	171	2	1	2,491	9,845
Corn oil	69,384	2,969	838	52,296	2,828	28	.....	16	2,827	7,582
Soybean oil	275,552	147,113	46,708	27,937	19,139	14,082	216	90	3,780	16,487
Olive oil, edible	698	.....	.....	620	21	.....	.....	.....	57	.....
Olive oil, inedible	485	.....	.....	.....	234	2	.....	.....	249	.....
Sulphur oil or olive foots	2,642	.....	.....	.....	2,483	.....	.....	.....	159	.....
Palm-kernel oil	1,503	35	.....	704	697	.....	.....	.....	2	65
Palm oil	90,592	22,549	1,375	64	41,436	.....	.....	.....	*21,229	3,939
Babassu oil	13,221	.....	332	2,081	10,384	23	2	1	57	341
Sesame oil	192	.....	.....	17	151	.....	.....	.....	24	.....
Rapeseed oil	7,138	.....	.....	.....	.....	26	.....	.....	7,112	.....
Linseed oil	305,100	.....	.....	.....	2,257	210,312	63,917	9,031	19,578	5
Tung oil	7,458	.....	.....	.....	.....	7,011	79	238	130	.....
Perilla oil	1,649	.....	.....	.....	.....	1,237	24	215	173	.....
Castor oil	54,494	.....	.....	.....	1,284	31,154	1,308	239	20,313	196
Other vegetable oils	27,831	11,642	666	5,590	1,468	6,212	368	152	989	744
Rendered pork fat	32,898	27,539	.....	5,113	.....	.....	.....	.....	.....	246
Lard	11,914	1,983	4,114	5,607	45	.....	.....	9	37	119
Edible animal stearin	17,692	12,842	1,277	2,829	102	.....	.....	.....	609	33
Oleo oil	12,947	599	11,561	545	99	.....	.....	.....	131	12
Tallow, edible	23,779	19,369	15	3,144	395	4	.....	1	813	38
Tallow, inedible	703,341	.....	.....	.....	622,539	152	1	11	80,638	.....
Grease	260,102	.....	.....	.....	169,273	81	.....	211	89,080	1,457
Neat's-foot oil	4,107	.....	.....	.....	18	31	.....	.....	4,058	.....
Marine mammal oils	16,970	.....	.....	.....	12,403	3	.....	1	4,563	.....
Fish oils	76,199	2,636	.....	.....	24,422	11,641	3,446	56	33,930	68

*Includes 20,466 thousand pounds consumed by the tin and terne plate industry.

half of 1942 only 41,436,000 pounds were used which on a comparative basis represents a drop of a third in rate of consumption. Use of fish oils continues to decrease. Only 24,422,000 pounds were used by soap makers in the first six months of 1942; 69,423,000 pounds were used in 12 months in 1941.

Soybean oil seems destined to take up some of the slack left in the palm category. In the first half of 1942 some 19,139,000 pounds were used; in the whole of 1941 only 24,737,000 pounds went to the soap kettle. More soybean oil was used in 1942 than in all of 1940. Babassu gives every indication of being used in smaller volume in 1942 than in either 1941 or 1940. It continues its downward trend begun in 1940 when its top volume was recorded. 10,384,000 pounds have gone into soap manufacture in the first six months of 1942. 29,753,000 pounds were used in 1941.

Marine mammal oils is the only other category to top the ten million pound figure. It shows an increase over 1941 by almost doubling in six months of 1942 the total consumption for the previous twelve months. The 1942 half yearly total, was 12,403,000 pounds as against 6,889,000 pounds during the entire year, 1941. Olive oil foots, which exceeded the ten million pound mark in 1941, appears destined to drop below that figure in 1942 based on the first six month's figure of 2,483,000 pounds.

Bleaching Soap Fats

Bleaching soap fats with organic peroxides such as benzoyl peroxide, has certain advantages, as these chemicals are easily and quickly processed. Benzoyl peroxide, a white powder insoluble in water, dissolves in fats at 80° C. When warmed it decomposes readily into benzoic anhydride and free oxygen, finally forming benzoic acid. The latter is quite harmless to the oil but may, if desired, be volatilized by blowing with steam.

Only 0.1-0.2 per cent by weight based on the oil, is necessary to affect bleaching action. The usual method is to stir the benzoyl peroxide into the oil at 70-80° C. until it is completely dissolved. The mass is then heated to 95-100° C. for 15-30 minutes. Tallow and animal fats, cottonseed, peanut, corn and similar oils, may be bleached and deodorized by this method.

Although in general benzoyl peroxide is a weak bleaching agent, it is very suitable for sulfur oils. Two such oils high in free fatty acids were bleached and freed of their green color by use of this reagent. *Am. Perfumer* 44, No. 9, 45 (1942).

White Shoe Cleaner

A composition suitable for cleaning white shoes made of fabric contains 4.5 parts of phosphorus trisulfide, 10 of potassium chlorate, 5 of iron oxide, 3 of zinc oxide, 7.5 of glass powder, 10 of glue, 20 of water, and 40 parts of asbestos. Harry A. Seran. U. S. Patent No. 2,279,532.

Salt Water Soap

(*From Page* 24)

on bacteria is also high, and other claims have been made that the products are useful in countering allergies of various types.

The detergent industry seems, indeed, to have done a job, on very short notice, of which it can be extremely proud. The results of its development work promise to continue to pay dividends even after the current emergency is past.

Perfuming Materials

(*From Page* 27)

tion orders, lack of equipment, and so on. Because many of our basic chemicals,—starting points in the synthesis of the aromatics,—our catalytic agents, solvents, reducing and oxidizing agents, etc., are important defense chemicals, our production of certain aromatics has necessarily had to be curtailed drastically. Acetic anhydride, phthalic anhydride, toluol, phenol, benzol, chlorine, sodium dichromate, aluminum chloride, magnesium,—these are some of the important chemicals used by the manufacturer of aromatics. However, the total amount of these products required by our industry is surprisingly small when compared with the large quantities produced. One of the major problems of our industry has been the substitution of non-critical materials in place of critical defense chemicals. No attempt will be made to consider each individual aromatic chemical, but a few examples will serve to illustrate the general situation.

Amyl cinnamic aldehyde, of major importance in all types of perfume work, requires benzaldehyde and heptaldehyde for its manufacture. Heptaldehyde, made from castor oil, has been difficult; benzaldehyde is normally made from toluol, which is a strategic defense chemical, so naturally benzaldehyde has been practically unobtainable. Recent efforts indicate that this chemical may be produced from di-benzyl, which is not as important a chemical as toluol in defense work. The manufacture of phenyl ethyl alcohol, also a major perfume material, involves the use of aluminum chloride. The various salicylates depend upon phenol as does coumarin. The acetates involve the use of acetic acid or acetic anhydride.

And so it goes. In greater or lesser degree, many of the aromatic chemicals are based upon other chemicals which are heavily involved in production for war purposes. The position regarding the aromatics has been far from static. New conditions continually arise almost daily to change the picture with reference to each individual chemical. The aromatic chemical industry has done a great deal of research work in the development of chemicals in an effort to produce aromatic chemicals without the use of strategic defense materials. Some of this work is bearing fruit and has helped to relieve the situation.

No one can foresee what the future holds for the aromatic chemical industry, or what situations may arise in any part of the world to influence any existing condition regarding the natural perfume materials. In the light of all that has happened to raw materials because of the war, it is remarkable that the quality of the perfume bouquets used in soap, toilet preparations, and perfumes has been maintained at its present level,—and that perfuming of finished goods generally has retained such excellence.

SANITARY PRODUCTS

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

Don't waste PYRETHRUM!

The needs of our armed forces and farmers are so great that all of us must do what we can to stretch out supplies of Pyrethrum.

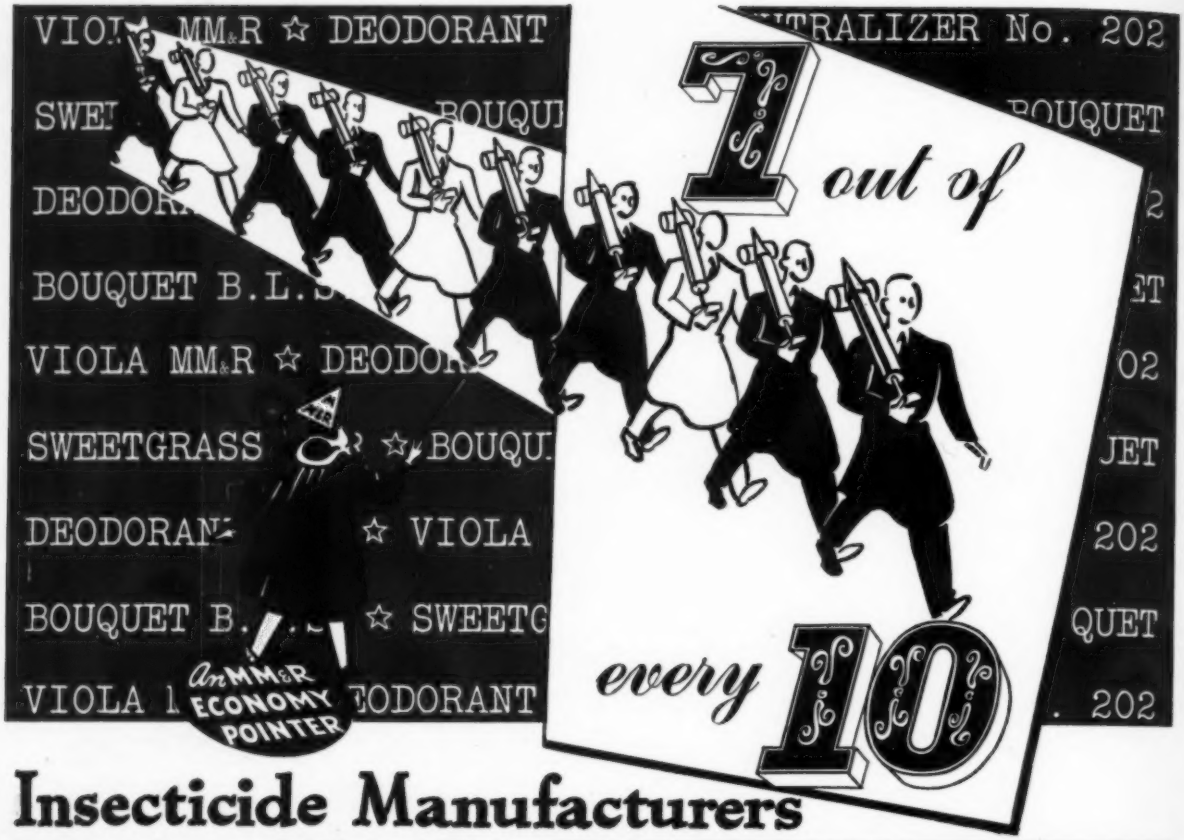
Two products which contribute to this War effort are:

***STIMTOX "A"*—(the low cost fortified Pyrethrum powder.) —for every pound of STIMTOX "A" you use — you save about four-tenths of a pound of 0.9% powder.**

***PYRIN*—(lower in price than straight Pyrethrum Extract) stretches out Pyrethrum stocks two and one-half times compared with your using straight Pyrethrum extract.**

The more Pyrethrum there is available—the better for you . . . So there will be more to go around, *use STIMTOX "A" and PYRIN to s-t-r-e-t-c-h o-u-t supplies.*

JOHN POWELL & CO., INC.
114 East 32nd Street, New York City.



Insecticide Manufacturers

who have told us how ~~much~~ LITTLE they could spend

for perfuming and deodorizing have found

to their profit that MM&R could do the

job BETTER and do it under the allowed production budget

SUGGESTION—Send us a sample of your unperfumed, undeodorized spray, tell us how little you have to spend, and our laboratories will return your samples deodorized and perfumed.

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS AROMATIC CHEMICALS, ETC...SINCE 1895

16 DESBROSSES ST. NEW YORK, N. Y.

OFFICES IN PRINCIPAL CITIES • CANADA: RICHARDSON AGENCIES, LTD., TORONTO

JUST *naturally* GOOD

PRENTISS CLARIFIED
PYRETHRUM CONCENTRATE #20

"IT'S A NATURAL"

A natural triple-threat man, who can run, kick and pass, is the most feared man in football. You can bet that when they pick the various All-American teams, every one will have at least one triple-threat in its backfield.

In the insecticide field, our nomination for All-American is Prentiss Clarified Pyrethrum Concentrate No. 20. This natural insecticide base, made from only the finest Pyrethrum flowers, is guaranteed to contain 2.0 grams Pyrethrins per 100 c.c. in either the Odorless or Regular base.

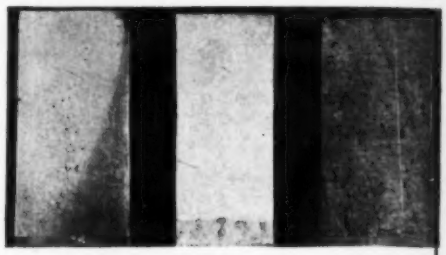
R. J. PRENTISS & CO.
80 JOHN STREET, NEW YORK CITY

INSIDE NEWS

NOVEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

New Protective Coatings Withstand Rigorous Tests

Variety of Materials That May Be Coated Make Them of Value to Many Industries



1 2 3

Results of the tests: The copper panel (3) is perfect, showing no breakdown at any point. The aluminum panel (2) shows pitting at edges and slightly spotted at upper left. The brass panel (1) shows very small pitting over central area.

A number of different types of coatings have been developed recently which afford permanent finishing and protection of metals, woods, lithic surfaces, fabrics, leathers and other materials. The photograph illustrates a test made on panels of brass, aluminum and copper for weatherability after the panels had been coated with one of these new protective coatings. The one selected for the panel tests is a water-clear coating which possesses many qualities of value to almost every branch of industry. The coating is resistant to both fresh water and salt water. In a salt spray test, in a 25 per cent solution over a period of 256 hours, the coating showed no effect. In the ultra-violet ray test, the results of which are shown in the photograph, no ill effects were revealed over a period of 300 hours with temperature at 125 deg. F., with water dip at 45 deg. every 15 minutes, followed by 100 hours in salt spray.

The coating was also found through testing in an industrial laboratory to be resistant to all mineral acids in any concentration at normal temperatures; to be resistant to alkaline solution and to all alcohols. Other tests revealed further that the coating had immunity to all petroleum products—oils, greases, gasoline—and resistance to animal or vegetable fats. Panels covered with the coating were given weather tests and temperatures from 150 deg. F. to —45 deg. F. had no unfavorable reaction on the panels. Under dry conditions, the coating will function at temperatures up to 500 deg. F.

The coating is impermeable even in thin coats. When the above tests were conducted, all of them were made with material which had been given only one dipped coat .0002 thick.

Another highly technical coating is produced from a basic material available in only one small deposit. It is refined to a consistency that enters into solution with solvents and other ingredients to serve as a unique protective coating. It is resistant to acids and alkalies in all concentrations at all normal working temperatures. Equally important, the coating offers protection to the surfaces of metals and lithic and wood surfaces against moisture and all corrosive reagents. Or it may be used to protect linings for tanks to carry water, hot or cold (but not drinking water), acid rinse and storage tanks, tank cars, pipe fittings, fume ducts, exposed metals, concrete and all other materials and installations that are subjected to deterioration by the elements. The coating may also be used as a substitute for galvanizing. It may be applied by brushing or spraying or, if the object is small, by dipping. Two coats are recommended for exposed surfaces, but as many as 6 to 10 coats may be needed for storage tank linings to avoid porosity under hydrostatic pressure. (221)

Tests made for the coating's resistance to acids and alkalies produced the following results:

Nitric acid	50 percent	72 hours	160 deg. F. No Effect
Sulphuric Acid	50 percent	72 hours	160 deg. F. No Effect
Hydrochloric acid	50 percent	72 hours	160 deg. F. No Effect
Hydroflouric acid	50 percent	72 hours	160 deg. F. No Effect
Hydroflouric & Nitric Acid	30 percent	72 hours	160 deg. F. No Effect
Caustic, saturated Sol.		6 days	190 deg. F. No Effect
Water		2 days	212 deg. F. Improved
Nitric Acid	30 percent	28 days	190 deg. F. Failed

These tests suggest a wide range of practical uses for the coating. This is of particular interest today when American industry has been so largely converted to war work.

Commercial Importance of Protein Material

Protein materials — jellylike substances which are the essential part of all living cells —are finding favor commercially because of their relative abundance and great versatility. Many striking and unconventional combinations of protein materials have been brought to light. Picture, for instance, a synthetic textile fiber made by extrusion of a mixture of cellulose xanthate (made from purified spruce woodpulp) and casein derived from skim-milk. A plastic compound, used as an electric insulator is made from a pine resin and corn protein. Casein, made from skim-milk by precipitation with an excess of very dilute acids, is also used in Portland cement to prolong the setting time. All of these new uses, and many more, indicate that protein materials will find increasing duties in industry as time goes on. (222)

Canned "Ham 'n Eggs"

There's nothing new about cooking ham with eggs, but when these two products are combined in a tin can, it's news. Canned ham and eggs are another wartime development, the idea being to supply the armed forces with a canned egg product that is high in protein. Canned ham and eggs will give the soldiers a needed and most welcome variation in their diet. The formula for the product, technically known as chopped ham and eggs, was developed by a large food packer in cooperation with representatives of the Quartermaster Corps. (223)

* * * * *

Despite a rumor to the contrary, recent studies indicate that the lipase content of cow's milk exceeds that of goat's milk. The possible development of a "goaty" flavor may be due to the large amount of caprylic acid in goat's milk fat as compared with the relatively slight quantity in the fat of cow's milk.

BY NATIONAL CAN

NOVEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

An Oil That's Different

One more vegetable oil added to the galaxy of oils now in commercial use is not news—except when that oil is different. Jojoba is different. It has remarkable stability under heat, freedom from color and odor, and a limpid character. Right now, jojoba oil—still in the test-tube stage—appears to be earmarked for special duty in the oil world by virtue of its unique properties.

This oil may some day be employed commercially in the chemical processing, soap, leather and lubricating oil industry, as well as in the fields of wax polishes and cosmetics. In the electrical industry there may be opportunity for its use as a transfer oil. Since oils are used for a great variety of purposes in modern industrial life, there is a broad field open for possible applications of jojoba oil. (224)

British Speed Up Bomb Painting

Three persons can put the paint on 5,000 shells in 8 hours with a new machine designed and built in 10 days by British makers of paint-spraying equipment. This machine does the work of 120 people in one-fiftieth of the time and can give a 25-pounder shell its coat of protective paint in 4.8 seconds—a process which formely required four or five handlings and as many minutes. Two watchers and a loader can do the work. Other paint-spraying machines designed to speed up production have also been made.

Technicians were able to undertake the job because of their experience in making machinery for lacquering food cans, many of which have been supplied to canners since the war. These machines coat 1-pound cans at the rate of 25,000 per 8-hour shift. Some of Britain's "beautiful bombs" are handled at these factories, where tiny jet sprays, scaled to a half-thousandth of an inch, form an inside coating to protect the metal from the action of explosive chemicals. (225)

Canning Industry Booms in South Africa

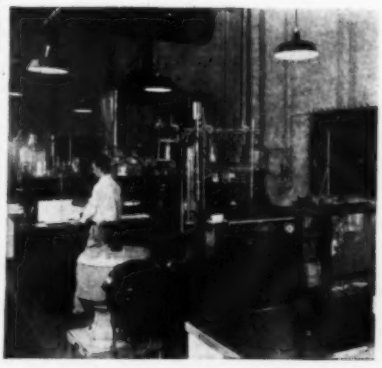
As a result of wartime needs, the canning industry in South Africa has expanded greatly. The canners in the Union of South Africa are now canning 30,000,000 lb. of jam, marmalade and jellies annually. Moreover, huge quantities of canned vegetables have been packed for the army in Egypt. The South African canners are also turning out canned pork and beans, beans and tomatoes, sausages, pork and beef, fish, sardines and sweet corn. They are even putting dried fruit into cans. (226)

Bamboo Universal Raw Material

Bamboo can supply all human needs, according to the United States Soil Conservation Service. There is no human need which cannot be supplied by some form of bamboo product: food, weapons, shelter, clothes, furniture, containers, bridges, conduction pipes, paper, cables, and so on "ad infinitum". The Forest Research Institute of Dehra Dun in India believes that the final solution of the world's recurring shortage of raw material for paper will only be found in the forest and waste lands of the tropical and sub-tropical belts, with bamboo the most important product. The famous "Bamboo Books", containing more than 100.000 seal characters, comprising 15 different works dealing with the history of China for 2,200 years, were written on tablets made of bamboo. Bamboo would give paper a durability and strength beyond anything yet known or developed. (227)

"Research Is Organized Thinking"

National Can Corporation's Laboratories Continue To Push Chemical Research



A View in the Chemical Laboratories

In this well equipped room problems involving chemical research are under way. They include studies on lacquers, the resistance of substitute plates, fluxes and other production problems of vital interest to the canning industry.

Technical Topics

ALCOHOL from waste citrus fruits, at a lower cost than alcohol from molasses, has been made possible by a new process announced recently at Winter Haven, Fla. 61,000,000 gallons of waste juices are available for this process in Florida canneries. (228)

CAROTENE, extracted from grass, is proposed as a coloring for margarine because of its nutritive properties, rather than synthetic dyes of no nutritive value, by an English scientist. (229)

GINSENG ROOT, called the man image, highly regarded in China for generations for curative properties, has a glucosidal principle which is hydroscopic and which has found some use as a glycerine substitute. Ginseng has been exported to China in large quantities for many years. (230)

TUNG OIL, one of the chief exports from China to this country, has been successfully used as a motor fuel in extended tests conducted by the Chinese. (231)

WAX EMULSIONS are mixed with the final rinse in Army laundries to render clothes water resistant and stain repellent. (232)

VITAMIN C—The South African guava (fruit of the Poidium tree, which also grows in South America, the West Indies and Ceylon) has a higher vitamin C content than any other known fruit in the World! So say scientists of the British Empire. (233)

FATS — Unsaturation of hydrogenated fats measurement is stated to be simplified by a direct titration method described in a recent British trade journal. In the procedure presented, the iodine value of hydrogenated fats is directly titrated in the presence of mercuric acetate with a solution of bromine in glacial acetic acid. The color of the bromine is used as the indicator. (234)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquirers to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)

BETTER FLY-SPRAYS WITH

thanite

Registered U. S. Patent Office

MADE
IN THE U. S. A.

A 2% solution of Thanite kills more flies than a 5% solution of standard pyrethrum extract, and Thanite is made entirely from domestic materials. Knockdown and repellency are also high.

EXCELLENT FOR CATTLE SPRAYS

Thanite is successfully used in heavy-base oils to make powerful cattle sprays. Fly sprays containing Thanite are effective against moths, mosquitoes, roaches, bedbugs, ants, silverfish, spiders, and other insects.

SIMPLIFIES CONTAINER PROBLEMS

Thanite sprays remain stable in all types of containers used for fly-sprays, including flint glass bottles when exposed to sunlight.

NAVAL STORES DEPARTMENT

HERCULES POWDER COMPANY
INCORPORATED

961 Market Street, Wilmington, Delaware

QSQ-105

...and there's also a Right Way

To be properly perfumed, an insecticide should be put into the hands of a competent perfumer, experienced in this special field. Insecticides must be carefully treated so that the proper balance between base odor and perfume be achieved. There is a right way to perfume an insecticide which leaves no obnoxious base odor and no perfumy pall.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE. ★ NEW YORK CITY

Purified Pyrethrum
Extract 20%
D.O

Worth looking into!

Here's something else that's worth looking into...*Glass*—a grand solution to your packaging problem. It's plentiful... and when you use it you help conserve the steel, tin and tinplate needed for victory.

There are other reasons, too, why so many manufacturers are using Anchor Hocking glass. Many new developments are responsible for the array of excellent advantages it gives you today. But that's not all. Anchor Hocking also gives extra benefits at no extra cost...the services of its experts in engineering and in biological and chemical research. These men know their business inside out, can be helpful to new users of glass in many ways, including simplifying and expediting change-over.

Today—call in your friendly Anchor Hocking packaging engineer. Ask him about the Anchor Hocking complete package—container *and* closure, made for each other by one company, available from a single supply source. And remember—whether you want the complete package or the containers and closures separately—your best buy is Anchor Hocking!

Worth looking into! *Anchor Hocking Containers and Closures*

Anchor C.T. Cap...Pitch of cap thread and glass container thread matches throughout their entire length, gives better, tighter seal. Absence of interference between cap and container threads makes cap easier to spin off or on. Fine knurls, cylindrical side walls and neatly turned wire edge provide better appearance.

Anchor Hocking Narrow Mouth Rounds are outstanding containers for insecticides, rubbing alcohol, liquid polishes and waxes, and a wide variety of household chemicals. 17 sizes are available, ranging from ½ oz. to 128 ozs. Pint and quart sizes are illustrated. These containers are easy to dispense from, make it possible to see quantity at all times. Available in amber or crystal.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION • LANCASTER, OHIO

SYNTHETIC PHENOL GERMICIDES

America's newest and most efficient means of fighting disease!

- ★ FOR DESTROYING DISEASE GERMS
- ★ FOR CONTROLLING SPREAD OF INFECTION
- ★ DISINFECTION OF SURGICAL INSTRUMENTS
- ★ DISINFECTION OF OPERATING EQUIPMENT
- ★ MAINTENANCE OF SANITARY PREMISES
- ★ POWERFUL FUNGICIDE
- ★ RELATIVELY NON-TOXIC TO SKIN TISSUE
- ★ PLEASANT ODOR
- ★ COMPLETELY SOLUBLE IN WATER

BAIRD AND McGUIRE, INC.

HOLBROOK, MASS. ★ ST. LOUIS, MO.

Who as the world's largest manufacturer of commercial disinfectants, take pride in offering a complete line of synthetic phenol germicides for packaging under private brand. Phenol coefficient values from 5 to 15 inclusive, in choice of several odors and in either emulsifiable or soluble type.

SANITARY PRODUCTS

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

. . . not on the table!

IN a recent editorial, *The New York World-Telegram* said: "The country faces a major food shortage and a 'scandal greater than the rubber situation' unless immediate steps are taken to co-ordinate food production and distribution. That warning comes from Paul S. Willis, president of the Grocery Manufacturers of America. We think it is not overdrawn. Even assurance of a more adequate supply of farm labor would not be enough to avert the danger, for as Mr. Willis points out, "Food in the field is not on the table." The processing, transportation and delivery of a quarter-trillion pounds of food a year for the American people, their armed forces and their Allies involve problems that are becoming increasingly difficult."

The editorial then goes on to call for the immediate appointment of a food administrator. But the part which is right up our alley is the statement that *"food in the field is not on the table."* How true this is! How true it is that a hundred varieties of insects can destroy thousands upon thousands of tons yearly between the time food is harvested and the time it is supposed to appear on the table. Experience of years shows that this has happened and that it can continue to happen without adequate control of food-destroying insects. From the moment a food crop begins to sprout from the ground until it is actually eaten by man or animal, the danger of destruction by insects never is absent. We want to repeat this as we have before a dozen times during the past year,—the *danger of food destruction by insects never is absent!*

In its desire to supply our armed forces with an adequate supply of insecticides, both at home and abroad, we fear that the War Production Board may be inclined to slight the requirements of insecticides to protect agricultural crops, and foodstuffs between the time of harvesting and consumption. Already, we see signs of this. And we also see the demands and specifications of the armed forces as needlessly wasteful of vital insecticide materials. And we see a lack of materials to manufacture

insecticides for the needs of industries shipping, storing and processing the food requirements of the country,—and a heavy and unnecessary destruction of foodstuffs.

If insecticides to protect our food supply are lacking, we are going to know more surely than ever that "food in the field is not on the table!" If this were shouted from the house-tops of Washington, maybe those who should listen, might heed!

ON December 7 and 8 in New York, the National Association of Insecticide & Disinfectant Manufacturers will hold its 29th annual meeting. We cannot remember a time during the past twenty years when more serious problems have confronted the industries represented by this association. Just where do they stand in the present war economy,—and what is still more to the point,—what are their chances of staying in business over the next two or three years if the war continues that long? What is being done and can be done to throw the full weight of production of the products of these industries into the war effort where they will do the most good? Truly, the meeting next month in New York will be perhaps the most vitally important one to the industries ever held. Attendance by every member is almost mandatory.

FROM the OPA on October 14 came a release OPA-T-192 which stated in part that " . . . except in special and unusual cases, upward adjustment of ceiling prices to permit producers to pass on to purchasers increases in container costs would not be authorized." This release is to apply to various chemical products and we judge includes also such products as insecticides, disinfectants, soap specialties, and the like. The general policy of the OPA, demonstrated in the case of the foodstuffs industries, is to allow little or nothing in the way of higher ceiling prices to cover increases in container costs and freight made necessary by the exigencies of war.

This particular decision of the OPA applies apparently only to containers used to replace steel drums either new or second hand. No mention is made of smaller containers such as cans and bottles. And the reason for the OPA refusal to permit higher prices where higher cost containers are used is " . . . to encourage the substitution of cheaper containers to replace steel." Does the OPA believe that industry would have been using steel containers all these years if something cheaper were available? And no consideration to a "hardship" case will be given unless it is "demonstrated that the concern has explored thoroughly the possibilities of substituting cheaper containers than those made of steel." The answer is again that industry has been looking for something cheaper for years and more particularly during the past year, but apparently without success. In this rather naive suggestion, the OPA is a few years late.

Accordingly, as we have suspected from the beginning, manufacturers will receive no blanket relief from enforced increases in container and freight costs. It will be a case of manufacturers, one by one as in the case of sweeping compounds, proving "substantial hardship" or absorbing the loss themselves.

THE subject of current vogue in Washington is "consolidation." Ability to talk freely on this topic is evidence that you have been putting in regular appearances at WPB headquarters,—or have at least been reading the right Washington letters. Consolidation, so the experts explain it, was very simple in England. A bomb dropped on your plant, making it very easy for you to decide to let your competitor in the next block handle your production for the duration. Here, we may be forced into consolidation the "hard" way.

What Specifications for INSECTICIDE BASE OIL?

WHAT are the specifications for a petroleum base oil used in the manufacture of a standard household type liquid insecticide? The answer is that there are no generally recognized specifications for such a base oil. Although now and then an insecticide specification will also specify the type of oil to be used, such oil specifications are few. In the case of the Bureau of Standards household insecticide specification, CS 72-38, probably the most widely used of all liquid insecticide specifications, there is not included a specification covering the oil to be used. There are various and sundry specifications set up for their own products by the suppliers of individual insecticide oils, but for all intents and purposes, no general specification for an insecticide base oil exists.

Is there a real need for a general base oil specification? After weighing all the evidence, the answer would appear to be "no." But there are some circumstances which would indicate that such a specification might be useful if one could be written which would satisfy all needs and not be merely an arbitrary set of conditions and figures. That there is some interest in such a specification is shown by the numerous inquiries from large insecticide purchasing agencies, federal, state and municipal governments as well as private companies, received by the National Association of Insecticide & Disinfectant Manufacturers and by the editors of *Soap & Sanitary Chemicals*. In the light of an apparent desire on the part of some large insecticide buyers for such a specification, the Association decided to investigate the matter from both the scientific and practical angles. To this end, N. J. Gothard, assistant chief chemist for the Sinclair Refining Co., East Chicago, Ind., was appointed to investigate the subject and draw up a set of tentative specifications, and subsequently to discuss his findings with the membership of the Insecticide Scientific Committee of the N.A.I.D.M. headed by A. E. Badertscher of McCormick & Co., Baltimore. Although it was the opinion of Mr. Gothard after his investigation,—and this opinion is shared by other technical men of the petroleum and insecticide industries,—that the adoption of such a standard specification would be of questionable value and might work a hardship on suppliers of certain types of insecticide base oils, he completed the project and submitted his findings for consideration of both oil and insecticide manufacturers.

IS there need for general specifications for base oils for liquid household type insecticides? Large insecticide buyers apparently believe there is; the insecticide industry differs on the question. If, after reading the discussion herewith, you have a further opinion on the subject, send it to A. E. Badertscher, McCormick & Co., Baltimore. In any specifications considered, it is the desire of the N.A.I.D.M. to have the views of the entire insecticide industry as well as purchasing agencies represented. —The Editors.

Tentative specifications for two types of liquid household insecticide base oil were drawn up (Table I.) and submitted for criticism. As pointed out by Mr. Gothard, if a set of specifications is to be drawn up, a start must be made somewhere and he submitted the two specifications, (1) "odorless" type, and (2) so-called regular or "non-odorless" type. His comments in submitting these specifications follow:

"With reference to the titles, it seems to me that they should indicate clearly that the specifications are intended for the usual type, commonly known as the household type, and are not intended for use in stock sprays. I am not entirely satisfied with the phrase, 'Household Type,' since these insecticides are widely used for industrial and institutional purposes, and now for military purposes. It is hoped that a better title can be found, but which will still differentiate between this type and the stock spray type. Also, I do not believe that the non-odorless type should be referred to as 'regular,' since this implies that it is the preferred or more usual type, whereas, actually, probably the majority of present insecticides are of the odorless type. Therefore, I believe that 'non-odorless' is preferable to 'regular.'

"With reference to flash, I have set this at minimum 125° F., because CS 72-38 has this requirement. Many members suggested a higher flash point than this, but as long as our recognized specifications for insecticides call for 125° F. flash, I do not see how we could specify a higher flash for the base oil. The majority of members agreed that there is no necessity for a range for flash, and that a minimum only is more desirable.

"With reference to initial boiling point, a majority seemed to feel that a minimum requirement is preferable to a range. I have suggested a minimum of 350° F., since such an initial will permit of meeting the flash and seems to be about the average of the various suggestions.

"With reference to end point, again a majority seemed to favor a maximum rather than a range, and I have suggested 510° F. as being about the average. I am heartily in favor of a minimum initial and a maximum end point. The former will insure meeting the flash and will provide a base which will not be too volatile to be effective, while the latter will insure a product which will be free from excessive wetting and staining. Any manufacturer can provide a closer cut fraction by raising the initial or lowering the end point, and this may be more satisfactory for his specific purpose, whereas if definite ranges for initial and end point are provided, all base oils would have to fall in those ranges. It must be remembered that these are general specifications only and should be made as open as possible and still provide base oils which will be satisfactory for the purpose intended.

"With reference to the test for reaction of the residue after distillation, there seems to be some question as to the necessity for this test. I should say that there is no harm in this requirement and it may help to insure a properly refined product. One member has suggested the neutralization number test of the oil itself rather than the test of the residue. He suggests that the odorless type should show no neutralization number, while the non-odorless type should be maximum 0.04. I do not believe that the former is practicable, because as far as I know, any properly refined oil will show a very small neutralization number, so that we cannot specify "none." I do not believe the test for neutralization number is properly applicable to oils of this type, and I should prefer the reaction of the residue. If this latter is objectionable, we might specify that the oil itself should have a neutral reaction to phenolphthalein and methyl orange indicators when shaken with water. This would insure freedom from inorganic acidity or alkalinity.

"With reference to color, I have shown +30 for the odorless type and 25 for the non-odorless. This seems to be in accordance with the wishes of the majority. One member believes these to be too high, and suggests minimums of 25 and 21, respectively. I really do not believe that the proposed specifications would work a hardship on any manufacturer and would insure highly refined products free from contamination. Another member suggests that there is no necessity for a color requirement, since colored toxic ingredients are invariably used. However, I believe that there should be a requirement for color to insure proper refining and freedom from contamination.

"With reference to the corrosion test, I can see no objection to this. One member comments that this requirement would rule out some satisfactory products. However, I believe that some requirement is desirable as a protection against tarnish of metals when the insecticide is used.

"With reference to odor, this is probably the point most open to controversy, largely because there is no known method for measuring odor accurately and the degree of odor is a matter of opinion only. In the case of the odorless type, there is no question but that it should be free from kerosene odor, but the phrase, 'practically free from all other odors,' is certainly indefinite and unsatisfactory and incapable of definition or determination.

"In order to protect the odor of the odorless type, another member and I have suggested a test for unsulphonated residue. This is a measure of compounds which will react with sulphuric acid and it is rather well established that if the oil is truly of an odorless type, the percentage of compounds which will not react with acid will be high. One member suggests the regular ASTM test, as usually applied to plant spray oils, and using sulphuric acid of 98.61 per cent acidity, and suggests a minimum of 94 per cent. I do not believe that this method and this requirement are severe enough to actually measure an odorless type of oil. Instead, I should suggest the use of fuming sulphuric acid of 104.5 per cent acidity, with a minimum requirement of 94 per cent. In order to pass this test, an oil must be truly of the odorless type. The disadvantage of this requirement is that there is no standard method for this test and a method would have to be inserted as an appendix to the specifications.

"In the case of the non-odorless type, a slight kerosene odor must be allowed, but again the extent of this odor cannot be measured and is bound to be a subject of controversy. Therefore, I suggest that this matter be left to agreement between the buyer and seller, presumably on the basis of accepted samples or standards. There is, of course, no need for a test for unsulphonated residue.

Table I.

	Base Oil, Odorless Type, for Household Type Insecticides	*Base Oil, Non-Odorless Type, For Household Type Insecticides*	*Method of Analysis*
Flash	Min. 125°F.	Min. 125°F.	ASTM Method D 56-36
Viscosity, kinematic at 100°F.	1.5-2.8 centistokes	1.5-2.8 centistokes	ASTM Method D 445-39 T
Distillation			ASTM Method D 86-40
Initial boiling point	Min. 350°F.	Min. 350°F.	
End point	Max. 510°F.	Max. 510°F.	
Residue after distillation	Neutral	Neutral	Fed. Spec. 510.2—VV-L-791a
Color, Saybolt	Min. +30	Min. 25	ASTM Method D 156-38
Corrosion (3 hours at 122°F.)	Not more than extremely slight discoloration.	Not more than extremely slight discoloration.	ASTM Method D 130-30
Odor	Free from kerosene odor and practically free from all other odors.	Slight kerosene odor, extent to be agreed upon between buyer and seller.	——
Unsulphonated residue (using fuming sulphuric acid).	Min. 94%	——	Method to be written and made an appendix to specifications.

"All of the foregoing is based upon the assumption that specifications for base oils are desirable, but, in my opinion, this is open to serious question. If a manufacturer has a base oil which is satisfactory for his purpose and his trade, I do not know why he should be practically forced into changing to conform to these specifications. Of course, it may be argued that he does not have to comply with these specifications, but we know that if these specifications are adopted and promulgated by the Insecticide Association, they will be widely used by purchasers so that the manufacturer will be practically forced to adopt them. Also, if there are official specifications of the Association, it will become highly advantageous to the manufacturer to advertise that his product complies with the official specifications for base oil, and this again will force the manufacturer to adopt an oil meeting them. On the other hand, I understand that this whole question was brought up on account of inquiries for such specifications being received by the office of the Association and that we have nothing to offer such inquirers. On this basis, it would be desirable to have specifications to offer. One answer to this question might be that these proposed specifications should not be adopted as official specifications of the Association, but should be adopted merely as suitable specifications for base oils and should be kept on file to be made public and offered to inquirers as suggested specifications which will insure the user getting a satisfactory base oil or a satisfactory insecticide as far as the base oil is concerned."

COMMENTS and criticism of the tentative proposed specifications as given were received from a number of leading chemists and entomologists in the insecticide industry. A number agreed with the specifications as given, some with minor changes. A few presented detailed discussion of the specifications which indicate the line of thought on the subject in the industry. W. A. Simanton of Gulf Research & Development Co., Pittsburgh, made the following comments:

"*Title* 'Household Type' probably should continue to be the designation for base oils until some alternate term can be agreed upon. 'Volatile Type Base Oil' might be used as this term and would distinguish it from the Cattle Spray bases in a general sense. I favor the proposed 'odorless' and 'non-odorless' expressions.

"*Flash Point.* I believe 125° F. is all right for a minimum flash, although for general safety I think it would be better to have a higher flash point. To digress a bit at this point on the general subject of base oils, it seems to me that there are two types, one being a very highly refined odorless distillate, especially developed and manufactured for use in insecticides. The other type is merely a good grade of ordinary kerosene.

"For the special odorless distillate base it seems logical to have specifications that give credit to the many advantages it has over kerosene, such as high flash, freedom from odor, higher initial boiling point and lower end point. The 'odorless' base is better and costs more. On the other hand if a buyer or manufacturer wants a cheaper base he buys a good grade of kerosene. Why not then make the 'non-odorless' base specifications such that most good quality kerosenes can be used? A flash of 125° F. is all right for the non-odorless base, but I prefer a flash specification of 140 or 150° F. for the 'odorless base.' Minimum limits only are required for flash point.

"*Initial Boiling Point.* I agree with a 350° F. initial as this is just about the minimum that will give a flash of 125° F. or above. Odorless bases generally run above 370° F. initial. If they are to be given credit I think a 360° F. minimum should be specified for the odorless type.

"*End Point.* For the odorless type which is specially refined for insecticides a lower end point provides greater freedom from oiliness. I think a maximum end point of 500° F. should be recognized. A higher end point, particularly when in combination with a high initial, may give an excessively oily base.

"For the non-odorless base I suggest an end point of 525° F. max. as many suitable good quality kerosenes would be ruled out if the end point specification was lower. Kerosenes generally are broader cuts with lower initials than odorless bases and a slight increase in end point does not necessarily mean slower evaporation.

"*Reaction of Residue.* Neither neutralization number or reaction of residue after distillation are particularly valuable tests. About all the latter test indicates is the freedom from potential acid forming constituents. The high temperature employed to effect the reaction is unlike anything encountered in practice. I doubt if such a test is needed but if one is I think some consideration should be given to Fed. Spec. 510.1-VV-L 791a which is a reaction test employing methyl orange and phenolphthalein.

"*Color.* I agree with the plus 30 and 25 requirement regarding color.

"*Corrosion.* The test has my approval.

"*Odor.* I prefer the phrase 'free from kerosene odor and practically free from all other odors' accompanied by an unsulfonated residue requirement. The above phrase is admittedly indefinite but it appears to express the odor characteristics as well as any other statement I have considered. It rules out the possibility of overcoming kerosene odor by the use of masking odorants. I agree with Mr. Gothard concerning the non-odorless base.

"*Unsulfonated Residue.* This test should be included because it expresses degree of refinement in a general way. As Nels Gothard states, it ties down the odor requirement to a certain extent. It also gives some indication of freedom from unsaturates which might have some effect on toxicity to humans and vegetation. I favor using ASTM Method D483-40 employing 98.61 per cent sulfuric acid as this is a recognized method. However, the requirement may be raised to 96 per cent minimum U.R. in the case of the odorless base.

"In view of the fact that non-odorless bases should be of good quality and partially free of unsaturated compounds it might also be advisable to specify an unsulfonated residue figure in that case. I have no figure to

offer at this time because I have not studied the U.R. of non-odorless bases extensively.

"I believe broad specifications for the two types of household insecticide bases are desirable. They need not be made official but they could be offered as suitable specifications available to persons who wish reliable information on base oils. Many specifications submitted by federal, state, and municipal agencies contain impractical requirements. If the Association would provide manufacturers with mimeographed copies of suitable specifications these could be sent to persons who are responsible for writing the specifications that accompany invitations to bid."

H. W. McCulloch, Jr. of Shell Oil Co., New York, offered the following comments:

"1. *Nomenclature:* Regular Base is a fairly well standardized trade name for the 'non-odorless' type household insect spray base and, except for the entirely uninformed, clearly designates a certain type product. Likewise, the prefix 'non' is not particularly desirable from a marketing point of view, and also, it is probably not desirable to use too similar nomenclature in describing the products.

"2. *Color, Saybolt:* Setting a specification for Saybolt color at 30 plus possibly would establish a precedent in this regard, especially undesirable to the refiners. The commercial specification for color for the 'water white' naphthas is normally 25 minimum, and it is felt advisable to continue such a specification designation for both grades. Likewise, federal insecticide specifications for 'specified solvent' all utilize the 25 minimum limit.

"3. *Odor:* As pointed out in our original correspondence, an odor specification can probably cause more controversy than any other, inasmuch as no specific test is available as a measure of this characteristic. It seems to me a statement 'should be free from kerosene, and practically free from all other odors,' and 'should not possess more than a slight kerosene odor,' each qualified by a statement 'extent of odor to be agreed upon between buyer and seller on the basis of standard samples' for the odorless and regular type bases, respectively, should suffice and should tend to eliminate any controversy in this regard between the buyer and the seller.

"4. *Unsulphonated Residue:* A specification for unsulphonated residue would no doubt serve a useful purpose to establish the degree of refining. However, I do not feel that the use of fuming acid in any quantitative analytical procedure is particularly desirable. Likewise, were we to qualify the odor specification as shown above, no real necessity for this specification would exist."

F. C. Nelson of Stanco Inc., New York, commented as follows:

"I have gone through the insecticide specifications for base oils, household insecticide type, and there are one or two places that I believe should be corrected, otherwise it seems to me that they are satisfactory. The paragraph covering minimum flash point is correct. Insofar as the 125° F. specification that was included in CS-72-38 is concerned, I have always felt that 125° F. is not a particularly safe figure, especially in very hot climates and in hot warehouses. It seems to me that for a good spray this minimum flash should be raised at least to 135° F., and I would prefer 150° F.

"The paragraph covering the color specification would be more suitable using the 25-21 minimum rather than the 30 and 25. I fail to see why a fly spray base should be placed in quite the same color requirement as a medicinal white oil.

"The first paragraph covering the unsulfonatable residue test should be changed to a minimum of 98 per cent rather than 94. Most of the so-called deodorized oils will run at least 98 per cent or better.

"Incidentally, there is a standard A.S.T.M. method for determining unsulfonatable residue listed as A.S.T.M. Method D-483-40. This may be referred to as a spray oil method, but actually it works just as well on any of these deodorized type oils and we are using it all of the time on Bayol D and other similar type oils."

C. R. Cleveland of the Standard Oil Co. of Indiana stated: "We agree with Mr. Gothard's recommendations in most essential particulars. Flash point, kinematic viscosity, distillation end point and odor specifications as proposed by Mr. Gothard, we find agreeable to us, although our research laboratory feels any viscosity specification to be superfluous, since the distillation range will adequately define a proper grade of oil in this respect. However, we have no objection to inclusion of the kinematic viscosity suggested by Mr. Gothard. With reference to odor, we most emphatically agree with Mr. Gothard that the only specification should be that the odor should be agreed upon between buyer and seller for both types of oils. This property is too hard to define accurately by any set physical or chemical tests.

"We have no serious objection to a 350° F. minimum initial boiling point. However, we still feel that it is a little higher than necessary, especially for odorless type oil, some of which may at times show a little below 350° F. We can see no reason for not setting this specification at 340° F. minimum and thus avoiding occasional possible unnecessary discrimination against satisfactory products.

"We also agree with Mr. Gothard in regard to the test for reaction of the residue after distillation. We would have no active objections to such a test, but believe, as he suggests, that an adequate and perhaps more satisfactory requirement would be that the oil itself should have a neutral reaction to phenol phthalein, and methyl orange when shaken with water.

"We can not agree that plus 30 color for odorless type oils and plus 25 for non-odorless oils are necessary to insure satisfactory products from this angle. Purity and proper refining are taken care of by other specifications and a plus 25 for odorless and a plus 21 for non-odorless oils will insure entirely satisfactory color for these products. The higher figures would at times work

(*Turn to Page 99*)

INSECTICIDES for the ARMY...

The aerosol insecticide program and its effects on the insecticide industry now and after the war

PROBABLY no insecticide development of the past twenty years has attracted closer attention from the insecticide industry than the aerosol program of the past six or eight months. With the Department of Agriculture, the Army and a few private companies working together to perfect a suitable self-propelling insect spray for use principally against mosquitoes and flies by the Army in the tropics, the aerosol "bomb" is the answer. But the evolution of insecticide aerosols dates back several years in the Department of Agriculture, Division of Insecticide Investigations, and the names which have been commonly associated with the work are Roark, Goodhue, Sullivan, Haller, and more lately Dove.

The main reasons why the current aerosol program for the Army has startled the insecticide industry are the claims and predictions which have been made for the new self-propelling insecticide spray. These are that it will, because of its superiority, soon put regular fly sprays off the market and second that all available pyrethrum imports over the next year or two will be required to produce the large quantity of aerosol insecticide needed by the Army and that no pyrethrum will be obtainable by regular insecticide manufacturers. These claims are denied by the scientists of the Department of Agriculture who state that the new aerosol bomb insecticide is definitely limited in its uses, that it is very effective against mosquitoes, flies and ants, but is of questionable value against bedbugs, roaches and other insects. They state that it will not put regular fly sprays off the market and that there will always be a demand for the latter. In fact, they state that owing to the high cost of the aerosol bombs, their use in peace-time on a competitive basis with regular fly sprays might not be possible. They point out that the bomb is particularly suitable for use by air lines and in other specialized uses where high cost is not a factor. In fact, they state, the first practical application of the aerosol bomb was against mosquitoes by the Pan-American Clippers flying into South America. A fine of $1,000 is reported leveled on any air line where a mosquito is found in or on the ship arriving at Natal, Brazil.

An aerosol is an extremely fine mist or fog, almost gaseous in character, where the particles of insecticidal ingredients are broken up to very small size and float in the air like a smoke for a long period in contrast to the quick settling of a petroleum base insect spray. Insecticidal aerosols were defined by Dr. R. C. Roark* of the U. S. Department of Agriculture several months ago, and should not be confused with the Aerosols, a series of wetting and detergent agents manufactured by the American Cyanamid & Chemical Co., New York.

In an aerosol bomb, the insecticidal ingredient is propelled or blown out of its container by a suitable gas under pressure and no sprayer is required. This basic idea in itself is not new, demonstrations of self-propelling insecticide containers having been made at meetings of the insecticide industry as long ago as ten years. In those instances, the propelling gas was carbon dioxide and the insecticide was a pyrethrum concentrate in petroleum. The high pressure container required for the carbon dioxide made the cost prohibitive and no commercial development was undertaken at that time.

* Jour. Econ. Entomology, 35-105, 1942.

The Aerosol Container

THE latest aerosol cylinder or "bomb" looks like a small round-end drum. It is a cylinder of 18 gauge steel such as is used in making steel drums and pails. There are several sizes,—five- and ten-pound cylinders having been reported made in a small number for use of the Navy,—but the present standard size for Army use is a steel cylinder about 5 inches long and 2½ inches in diameter, rounded at both ends, equipped with a syphon tube running down the middle of the inside and with a nozzle and valve and flat valve release almost flush with the surface at the top. Upon opening the valve, the insecticide mixture is blown out by the gas pressure in the form of a fine fog traveling at high speed for a distance of six or eight feet from the nozzle from which point it floats along similar to a smoke. The expelling pressure derived from the liquefied gas is about 85 pounds per square inch.

Pyrethrum Extract Used

THE aerosol insecticide now being manufactured for the Army uses a highly purified and concentrated pyrethrum extract as the insecticidal ingredient plus sesame oil as an activator. In the finely divided form in which the pyrethrum is expelled into the air, the difficulty is to obtain an extract of sufficient purity and free of irritating properties to the eyes and

mucous membranes of humans and animals. Ordinary highly concentrated pyrethrum extracts are reported too irritating and thus far this has been one of the major problems in the aerosol program. One type of extract is now reported to be suitable.

The pyrethrum concentrate as it is packed in the bomb contains 20 per cent pyrethrins which represent something over 100 lbs. of Kenya pyrethrum flowers of 1.3 per cent pyrethrins to the gallon. It is reported that the extractives of approximately one pound of Kenya flowers are required per one-pound cylinder or bomb of aerosol. Considerable research to develop more highly purified pyrethrum extracts suitable for the aerosol bomb is reported under way among some pyrethrum extract suppliers, more particularly the use of high boiling solvents in the extraction process.

Use Gas Expellent

THE expelling gas used in the aerosol bomb at present is dichlorodifluoromethane. This has been known commercially as Freon 12 and has found considerable use as a refrigerant material. It was originally a joint development of Du Pont and General Motors. It is a non-poisonous gas and reports indicate that long biological research confirms this claim. The material is produced from carbon tetrachloride (CCl_4) by replacing two of the chlorine atoms with fluorine, giving CCl_2F_2. The gas has several properties which appear to make it an ideal expellent for an insecticide. Not only non-poisonous, it is non-inflammable, and has a low vapor pressure permitting the use of light-weight cylinders. The pressure in the aerosol bomb is only 85 pounds per square inch against many times this pressure for some other available gases.

Although Freon gas appears to be the most convenient solvent and propellent for the insecticide bomb, methyl chloride is stated to have possibilities as a solvent-expellent and research is now being carried on with this material replacing the dichlorodifluoromethane. It is a good solvent and has a vapor pressure of about 70 pounds per square inch. To some extent, however, methyl chloride is toxic to man and animals and accordingly its use might be limited on this account. The use of propane as a diluent for Freon has been tried where the mixture does not contain sufficient propane to make it inflammable.

The suggestion of trying carbon dioxide diluted with acetone or alcohol has been made as a means of reducing its high vapor pressure of 1,000 pounds per square inch. Addition of certain solvents to dicholodifluoromethane such as deodorized kerosene, orthodichlorobenzene, acetone and others has been tried and the combinations appear to work satisfactorily. Where equal parts by volume of Freon and solvent are used, a vapor pressure of more than 50 pounds per square inch is obtained and this is sufficient for producing an effective aerosol. But at the moment, dichlorodifluoromethane appears to be the most suitable available product for the manufacture of a convenient fly and mosquito aerosol for the Army overseas and is accordingly being used.

The Finished Insecticide

THE finished insecticide as it is packed in the cylinders or bombs contains concentrated pyrethrum extract of 20 per cent pyrethrins sufficient to make about 4 mg. of total pyrethrins per gram of insecticide solution, according to Goodhue and Sullivan. It is filtered to remove all solid particles that might clog the nozzle. Refined sesame oil is added at the rate of 10 mg. per gram of solution to increase the toxic effect. The addition of sesame oil is held to be necessary as an activator.

According also to Goodhue and Sullivan who have done most of the more recent basic aerosol work, the insecticide solution is prepared by evacuating a clean tank with a water pump and then introducing the required amounts of pyrethrum concentrate and sesame oil. The valve is closed before any air is drawn in. Connection is then made with a supply tank of dichlorodifluoromethane and the latter in liquid form is allowed to flow into the evacuated tank. The supply tank of gas must be warmed or the receiving tank must be cooled to cause a sufficient flow of the liquid. A small amount of wax-like substance in the pyrethrum extract is not soluble in the dichlorodifluoromethane, but this adheres to the side of the tank and causes no difficulty. The amount of dichlorodifluoromethane added to the tank is obtained by difference in weight.

Reasons for Army Use

COMMERCIAL aspects of the Army aerosol program have as might be expected given rise to much discussion and speculation in the insecticide industry, particularly the prediction that aerosol insecticides are destined eventually to replace fly sprays completely. But these cylinders are being produced for the Army wholly for use overseas. Reports in Washington indicate that Army encampments and posts in the United States will continue to use the two standard type insecticides, specifications for which have been reported completed, one a regular AA spray and the other a higher concentrated product designed chiefly for use against crawling insects.

The reasons for the Army selection of an aerosol insecticide for overseas use after investigating the problem for the past five or six months are readily understandable. The aerosol bomb is durable and compact, can be packed and shipped anywhere, will withstand temperatures of 125 degrees and higher, is ready for instant use when taken from its shipping case, and requires no sprayer. The insecticide itself is effective against the chief tropical pests, flies and mosquitoes and ants, it is non-poisonous and non-inflammable.

The whole product, except its cost which is high on a comparable basis, has been stated in Washington to be exactly what the Army wants for overseas use,—a handy and effective product. Another factor which is reported to have emphasized the "handiness" of the aerosol bomb to the Army is the inefficiency of the average hand sprayer, its unhandy shape and size plus the time required to fill it, and its lack of durability under conditions of rough handling. In fact, it is reported

Shrine of GOOD WILL

Standing as it does between two great countries whose friendship has never been questioned, Niagara Falls is a perpetual reminder of the fact that nations can live and prosper side by side in peace and mutual respect. The beauty of this fact is commensurate with the beauty of the Falls themselves. So, Niagara today is considered by the people of the Americas as a shrine of good will ... a constant expression of the desire of free men to respect the freedom of others.

So in the light of events, Niagara has become more than a scenic wonder... more than a trysting place of sentiment and romance... more, indeed, than a source of dynamic power in a power-driven age. It is a symbol of the simple, fundamental truths by which men and nations can live together—living proof that world democracy can be a basis for world peace.

We who work within sight and sound of Niagara Falls are devoting every ounce of our energies and facilities to speeding the flow of chemicals for Victory.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
LIQUID CHLORINE

Niagara ALKALI COMPANY

60 EAST 42nd STREET, NEW YORK, N. Y.

Why do bees air out their package every day?

DID you know that bees do a "fan dance" standing still? They do it every day, to air condition the package they live in—the beehive.

A beehive bulges with busy bees. Where there's such a crowd, the air soon would grow stale—workers soon would get groggy. Packaging problem: to keep the air fresh. The bees have solved *that* one.

Certain bees have just one job—to act as fanners. They stand perfectly still all day, ceaselessly beating their wings. This fanning forces stale air out of the hive, makes currents of clean, fresh air flow in. The air movement, too, helps evaporate water from the honey and make it purer and "riper."

Bees made their package successful. They had to do it themselves. Modern business men are luckier. They come to Continental, packaging headquarters for industry. Today, however, war efforts come first.

The experience and resources of Continental are now enlisted in helping the nation. Besides millions of food containers for civilian America, for our fighting forces, and for our Allies, we are producing other packages to protect America.

Anticipating another day, we see many new applications of the things we are learning and doing now. If you are looking ahead or developing an idea, we'll be glad to help you. Our packaging engineers, research men and designers are at your service at all times.

CONTINENTAL CAN COMPANY

Packaging Headquarters for Industry

What will be the PACKAGE of the FUTURE?

The package of the future will be the package that best meets *all* these 10 important points:

1. Protects against light, heat, and dirt.
2. Does not chip, break, or tear.
3. Is adaptable to *highest* speed filling operations.
4. Is economical to pack, ship, and handle.
5. Light weight, compact, no waste space.
6. Moisture and vapor proof, impervious to temperature changes.
7. Easy and convenient to display, sell.
8. Available in wide variety of sizes, shapes, styles (over 500).
9. Offers maximum convenience and safety in consumer usage.
10. Permits high processing temperatures, certain hermetic sealing.

These points made the metal container *first* in packaging. If there ever is another package that has *all* these qualifications, we'll be making it!

Processed Congo Gum

for

No-Rub Waxes

Since Carnauba Wax became short, our research laboratory has been developing formulations permitting the use of S&W FUSED CONGO No. 5 (processed Congo Gum) to replace large amounts of Carnauba and other waxes. We are now pleased to announce that wax replacement to the extent of 80% can be accomplished using our material, to give a tack-free product with excellent gloss and hardness.

S&W FUSED CONGO No. 5 requires no further processing on your part. It is available for prompt shipment without priorities.

Samples and technical information will be sent promptly upon request.

Stroock & Wittenberg Corporation

60 East 42nd Street — New York, N. Y.

that hand sprayer shortcomings constituted the strongest argument against regular liquid insect sprays for overseas use.

Reports as to the cubic space which can be sprayed with the standard one-pound aerosol bomb have varied widely, as have the equivalent value of the insecticide. Estimates place the space which can be sprayed with one bomb as 90,000 to 100,000 cubic feet. They also place the insecticide equivalent of one bomb as equal to one-half up to two gallons of an AA insect spray. Goodhue states that against mosquitoes, one bomb will effectively spray 200,000 cubic feet, and that against flies and ants, 100,000 cubic feet. Against roaches, bedbugs and other crawling insects, effectiveness at these dilutions has not been good. He says that each one-pound bomb contains the equivalent of two gallons of an AA spray.

Production and Supply

HOW many of these bombs are to be taken by the Army and how many have already been bought? The answer is almost anybody's guess. The Army and the W.P.B. know and they will not tell, as is to be expected. The exact figures, as a matter of fact, are a "military secret."

From unofficial reports we gather that only a relatively small number of the bombs have been manufactured up to this point as against the number that will eventually be required. However many are eventually made, and this is the most important feature to the insecticide industry at the moment, approximately one pound of pyrethrum flowers will be required for each bomb. Incidentally some of those in close touch with the pyrethrum market have expressed grave doubt that Kenya production and limited shipping space will be able to solve the problem of supplying the needs of any ambitious aerosol program without interfering seriously with supplies of pyrethrum for regular insect sprays for other Army or civilian requirements. (Loss of Kenya flowers by submarine sinkings, incidentally, is already reported in the neighborhood of 125 tons.)

In the final analysis everything will depend, of course on the extent of the aerosol program and future pyrethrum arrivals from Kenya, both unpredictables at the moment. A point which may offer some comfort to manufacturers of insecticide for civilian use is that whatever insecticide the Army takes in its aerosol program will reduce proportionately the quantity of regular spray that will be required for Army use.

At the present time, the aerosol bombs are being manufactured and filled at Springfield, Mass., by the Westinghouse Electric & Manufacturing Co. Their price to the Army is reported to be in the neighborhood of $1.50 each for the standard one-pound cylinder. The dichlorodifluoromethane or Freon 12 gas is being manufactured and supplied by the Kenetics Chemical Co. at Kearny Point, N. J. This latter company is a joint subsidiary of Du Pont and General Motors. The concentrated pyrethrum extract is being supplied by Dodge & Olcott Co., New York. Up to date, some large insecticide manufacturers and suppliers of pyrethrum have had several hundred tons of their pyrethrum taken from them in order to supply the needs of the aerosol program.

Container Rulings

Ban Tin Pyrethrum Cans

The use of tinplate in packing pyrethrum and rotenone base insecticides was ordered stopped on October 20, by the WPB in Amendment No. 4 to the tin Conservation Order M-81. The precise method by which this prohibition was levied was the deletion of Item 7 which stated: "Insecticides including only pyrethrum and rotenone base, 1 qt. cans, Tinplate bodies." Blackplate or glass can be substituted for tinplate in which these products were formerly packed.

—— ♦ ——

Further Limit Black Plate

Further limitations on the use of blackplate in the manufacture of cans have been imposed by the WPB in Amendment No. 1 to Conservation Order M-136 which went into effect October 23. The original order, issued on July 22, set up two lists of products which could be packed in containers made of blackplate. Two additions have been made to the list under Table A, but by deleting this sentence in paragraph (e) (2) "Cans made in whole or part of chemically treated blackplate shall be used only for packing products listed in Table B" other restrictions were instituted. Table B directly relates to Order M-81, which is the Tin Conservation Order, and which was amended recently reducing the number of products that might be packed in tin containers. This is the case of rotenone and pyrethrum base insecticides. They were on the list formerly, but their elimination from it also means their restriction in M-136. Item No. 7 on Table A was revised to state "Dry-solvents, excepting lye, and including but not limited to toilet bowl and drain cleaners (may be packed in) 10 ounce cans." It read "Dry-solvents, including, but not limited to toilet bowl and drain cleaners, 10 ounce cans" before the amendment.

—— ♦ ——

Curtail Tin Closures

An amendment to Conservation Order M-104, issued recently, levies a further curtailment on the use of metal in closures for glass containers by eliminating the use of waste. This action is accomplished by redefining tin, terne and black plate as well as waste. However, under amendment of May 30, 1942, tin or terneplate closures could not be used on glass containers for insecticides, agricultural disinfectants, oleic acids, etc.

—— ♦ ——

Containers Branch Changes

The following changes in the personnel of the Containers Branch of the W.P.B., as announced by Charles L. Sheldon, Chief, include: W. W. Fitzhugh, Deputy Chief. He was at one time chief of the folding and set-up box section of the Containers Branch. Franklin R. Kelly has been made chief of the Folding and Set-up Box Section. Robert S. Solinsky is chief of Metal Can and Tube Section.

For Odor Corrections-use

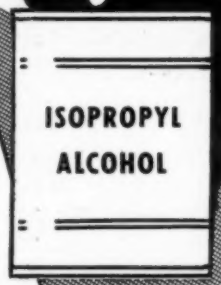
ISOBLEND

NEW ISOPROPYL ALCOHOL DEODORIZER

It is sometimes necessary for a manufacturer to use Isopropyl Alcohol in place of Ethyl Alcohol, although the odor of Isopropyl Alcohol often works against the sale of the product.

In order to modify this characteristic odor and make it more pleasant, we suggest the use of our new Isopropyl Alcohol deodorizer "ISOBLEND".

Why don't you order a small quantity and experiment yourself to determine the exact degree of odor correction your products require.



AROMATIC PRODUCTS, INC.

15 East 30th Street, New York - - Factory: Springdale, Conn.

ATLANTA • DALLAS • MEMPHIS • PITTSBURGH • CHICAGO

PYRETHRIN DETERMINATION

The determination of pyrethrins in mixtures of pyrethrum powder with other insecticidal ingredients and various diluents

By Dr. J. J. T. Graham

Insecticide Div., Livestock Branch, Agricultural Marketing Service, U.S.D.A.

PYRETHRUM powder for use as an agricultural insecticide is usually mixed with a diluent, and sometimes with other insecticidal ingredients. In a study of the determination of pyrethrins in such products, mixtures of pyrethrum powder and clay, in the proportion of 30 per cent pyrethrum powder and 70 per cent clay, were extracted in a Soxhlet extractor for 24 hours with petroleum ether and the pyrethrins determined in the extract as provided by the Official Method (1). This method of extraction recovered less than half of the pyrethrins.

Pyrethrum powder and clay in the above proportions were also mixed with asbestos and extracted for 24 hours with petroleum ether in a Soxhlet extractor. The recovery of pyrethrins was still very low. The low results obtained with petroleum ether extraction may be due to the poor penetration of clay mixtures by petroleum ether, and also to adsorption of the pyrethrins by the clay. In a previous investigation (2) it was proved that the pyrethrins could be quantitatively extracted from pyrethrum powder at room temperature by agitating the sample with petroleum ether on a shaking machine. (However, due to the volatility of the petroleum ether, this method is not recommended for general use.) This method of extraction when applied to mixtures of pyrethrum and clay failed to recover a large part of the pyrethrins, although there appeared to be intimate contact between the solvent and the particles of the sample.

As petroleum ether failed to recover all the pyrethrins from pyrethrum-clay mixtures, chloroform, carbon tetrachloride and acetone were tested, using several methods of extraction. In a Soxhlet extractor, neither acetone nor chloroform extracted in 24 hours all the pyrethrins from a sample of pyrethrum and clay, with which asbestos had been mixed. Because extraction in a Soxhlet extractor failed to give complete recovery of the pyrethrins with the several solvents tested, other extractions were made by using a shaking machine; and by boiling the sample with the solvent under a reflux condenser.

Two procedures, the multiple extraction and the aliquot, were used with the shaking machine. In the former, the sample was shaken for 4 hours with the solvent and then filtered through a Buchner funnel, using suction. The marc was returned to the flask, fresh solvent added, and again shaken. In general this was repeated until 3 or 4 portions of solvent had been used. The entire extract was used for the determination.

In the aliquot procedure 300 ml. of solvent was added to the sample in the extraction flask and the flask and contents were then shaken for the desired period of time. When the shaking period had elapsed, the flask and contents were cooled and the solution filtered by gravity through a fluted filter, the funnel being kept covered with a tight-fitting watch glass. For the determination, an aliquot of 200 ml. was used. The determinations were made by the official method of the Association of Official Agricultural Chemists (1). Chloroform in both the multiple extraction and the aliquot procedures extracted all of the pyrethrins. Chloroform also extracted the pyrethrins completely when boiled with the sample for 1 hour under reflux. This is shown by the fact that the Pyrethrin I values, calculated on the basis of the pyrethrum present, checked those obtained by the Official Method in the analysis of the straight powder.

The Pyrethrin II values are much too high. This is due to the fact that the chloroform extracts much more of the non-pyrethrin material than does the petroleum ether, and that some of this evidently is not precipitated by the barium chloride but saponifies to non-volatile acids. The value for Pyrethrin II, being obtained by a titration of the residual acids, is consequently affected by the presence of these non-volatile acids.

Acetone was tried on the shaking machine for one experiment only. It extracted more extraneous matter than the chloroform, and although the Pyrethrin I result was satisfactory, an extremely high result was obtained for Pyrethrin II. No further work was done with this solvent.

Because carbon tetrachloride extracts much less extraneous matter from pyrethrum than does chloroform

In The Front Line Among Pesticides

PYREFUME

Triple Tested Pyrethrum Concentrate

PYREFUME sprays send a deadly barrage against flies, bedbugs, roaches, mosquitoes, and silverfish. The pesticidal potency of **PYREFUME** makes a direct hit with customers. Laboratory standardized for uniform "knock-down-and-kill" power, highly stable, relatively stainless and having a natural flower fragrance, **PYREFUME** is a winning pyrethrum base on most insecticide fronts. Due to the fact that pyrethrum extracts are needed in large quantities by our armed forces who are fighting those major pests, Hitler, Musso, and Hirohito, we are at present able to supply only limited quantities of **PYREFUME.** However, orders will cheerfully be filled under the terms of War Production Board Order M-179.

S. B. PENICK & COMPANY

50 Church St., New York, N. Y. **735 W. Division St., Chicago, Ill.**

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

TABLE 1.

Determination of Pyrethrins in Pyrethrum-Clay Mixtures

Results Expressed as Percentages Based on the Pyrethrum Powder* in the Mixtures

Sample	Method of Extraction	Extraction Period	Solvent	—Pyrethrins— I	II	Total
1940-2	Soxhlet, asbestos mixed with sample	24 hrs.	Pet. ether	.27	.14	.41
1940-2	Soxhlet, asbestos mixed with sample	24 hrs.	Acetone and Pet. ether	.22	.29	.51
1940-2	Shaking machine, multiple extraction	4 and 3 hrs.	Pet. ether, 300 ml. each extraction	.19	.07	.26
1940-2	Shaking machine, multiple extraction	4-2-2-2 hrs.	Acetone 300-250-250-250 ml.	.38	1.40	1.78
1940-2	Shaking machine, aliquot	4 hrs.	Pet. ether	.27	.15	.42
1940-2	Soxhlet, asbestos mixed with sample	24 hrs.	$CHCl_3$	.29	1.16	1.45
1940-2	Shaking machine, multiple extraction	4-2-2-2 hrs.	$CHCl_3$, 300-250-250-250 ml.	.39	.95	1.34
1940-2	Shaking machine, multiple extraction	4-2-2 hrs.	$CHCl_3$ 300-250-250-250 ml.	.39	.81	1.20
1940-2	Shaking machine, multiple extraction	4-2-2 hrs.	$CHCl_3$ 300-250-250 ml.	.40	.83	1.23
1940-2	Shaking machine, aliquot	4 hrs.	$CHCl_3$	.37	.42	.79
1940-2	Shaking machine, aliquot	4 hrs.	$CHCl_3$	.40	.66	1.06
1940-2	Shaking machine, aliquot	4 hrs.	$CHCl_3$	.40	.73	1.13
1940-2	Shaking machine, aliquot	4 hrs.	$CHCl_3$	.40	.81	1.21
1940-2	Shaking machine, aliquot	4 hrs.	$CHCl_3$	.40	.72	1.12
1942-1	Shaking machine, aliquot	2 hrs.	$CHCl_3$	.51	.76	1.27
1942-1	Shaking machine, aliquot	1 hr.	$CHCl_3$	.51	.74	1.25
1942-1	Boiling under reflux condenser, aliquot	1 hr.	$CHCl_3$	.49	.77	1.26
1940-2	Shaking machine, aliquot	4 hrs.	CCl_4	.32	.34	.66
1940-2	Shaking machine, aliquot	4 hrs.	CCl_4	.31	.35	.66
1940-2	Shaking machine, aliquot	4 hrs.	CCl_4	.32	.37	.69
1940-2	Shaking machine, multiple extraction	4-2.5 hrs.	CCl_4 300-300 ml.	.31	.33	.64
1942-1	Boiling under reflux condenser, aliquot	1 hr.	CCl_4	.45	.50	.95
1942-1	Boiling under reflux condenser, aliquot	2 hrs.	CCl_4	.44	.47	.91

* Analyzed by Official Method sample 1940-2 contained 0.39% Pyrethrin I, 0.54% Pyrethrin II; sample 1942-1 0.50% Pyrethrin I, 0.58% Pyrethrin II.

or acetone, experiments were made using it as a solvent. Extractions were made on a shaking machine by use of both the multiple extraction and aliquot procedures. Extractions were also made by boiling under reflux. All of the results were low but those obtained by the boiling extraction more nearly approached the true values than did those in which the extraction was made on a shaking machine at room temperature.

The results are given in Table 1.

After it had been proved that chloroform extraction will recover all of the pyrethrins from pyrethrum-clay mixtures, the determination was carried out in presence of other diluents and insecticidal ingredients.

In the case of the determination in presence of sulfur it is necessary to slightly modify the method. The sulfur is removed by evaporating the

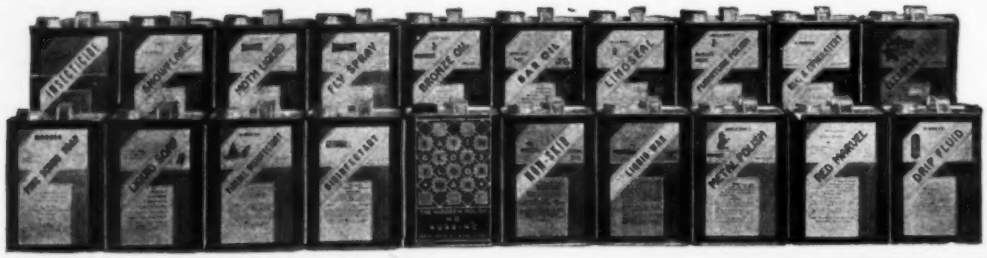
TABLE 2.

Determination of Pyrethrin I in Pyrethrum Powder Mixed with Other Ingredients. Results Expressed as Percentages Based on the Pyrethrum Powder in the Mixtures

Sample—Diluent	Method of Extraction (Chloroform used as Solvent)	Extraction Period	Pyrethrin I
1942-1 Talc	Shaking machine, aliquot	4 hrs.	.48
1942-1 Talc	Shaking machine, aliquot	2 hrs.	.47
1942-1 Talc	Shaking machine, aliquot	2 hrs.	.52
1942-1 Talc	Shaking machine, aliquot	1 hr.	.52
1942-1 Cube	Shaking machine, aliquot	1 hr.	.50
1942-1 Derris	Shaking machine, aliquot	1 hr.	.48
1942-1 Tobacco	Shaking machine, aliquot	1 hr.	.54
1942-1 Lime	Shaking machine, aliquot	1 hr.	.54
1942-1 NaF	Shaking machine, aliquot	1 hr.	.54
1942-1 Borax	Shaking machine, aliquot	1 hr.	.53
1942-1 Sugar	Shaking machine, aliquot	1 hr.	.52
1942-1 Flour	Shaking machine, aliquot	1 hr.	.51
1942-1 Soap-bark	Shaking machine, aliquot	1 hr.	.52
1942-1 Sulfur*	Shaking machine, aliquot	1 hr.	.52
1942-1 Cube	Boiling, reflux condenser	1 hr.	.48
1942-1 Derris	Boiling, reflux condenser	1 hr.	.49
1942-1 Tobacco	Boiling, reflux condenser	1 hr.	.53
1942-1 Sugar	Boiling, reflux condenser	1 hr.	.54
1942-1 Lime	Boiling, reflux condenser	1 hr.	.48
1942-1 NaF	Boiling, reflux condenser	1 hr.	.49
1942-1 Borax	Boiling, reflux condenser	1 hr.	.49
1942-1 Flour	Boiling, reflux condenser	1 hr.	.54

* The method was modified to remove sulfur from the extract as described in the text.

MANUFACTURERS FOR THE JOBBERS



DISINFECTANTS AND DEODORANTS

Coal Tar Disinfectants
Pine Oil Disinfectants
Urinal Cakes
Deodorant Blocks
Perfume Sprays
Pine Deodorant

FLY SPRAYS

MOTH SPRAYS

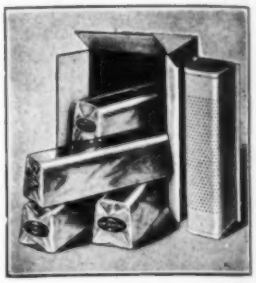
INSECTICIDES

POLISHES

Metal
Furniture
Bar Oil
Cedar Oil
Silver Paste
Lemon Oil

WAXES

Non-Rubbing
Prepared Liquid
Prepared Paste
Powdered Dance Wax



Write for Our Descriptive Catalogue and Price List.

UNCLE SAM CHEMICAL CO., INC.

329 East 29th Street ESTABLISHED 1915 New York, N. Y.

KEEP YOUR SPRAY IN ON THE KILL - - - WITH

DEO-BASE*

the Odorless Carrier

Deo-Base* is completely free from kerosene odor, and from after odor. With Deo-Base, there's *nothing to cover up!* This permits a wider choice of perfumes which may be used in minimum quantities. In fact, with Deo-Base, perfuming may be omitted entirely for purposes of economy.

In addition, Deo-Base itself is remarkably stable, and has stabilizing action on the killing power of pyrethrum. Other all-round advantages include high wetting action—freedom from staining and minimum residue—and balanced particle size to assure suspension for the longest possible periods.

Write today for full details about Sonneborn's Deo-Base—and remember the Sonneborn Technical Service can be a practical aid in developing the full possibilities of your products.

WHERE QUALITY COUNTS—COUNT ON SONNEBORN

* Registered U. S. Patent Office

L. SONNEBORN SONS, INC.

Refiners of White Mineral Oil and Petrolatum • Refineries: Petrolia and Franklin, Pa.

NEW YORK CHICAGO BALTIMORE PHILADELPHIA LOS ANGELES

Southwestern Distributors: Sonneborn Bros., Dallas, Tex. • Canadian Representative: Charles Albert Smith, Ltd., Toronto

Stocks Carried in Principal Cities

extract to dryness; treating the residue with 5-10 ml. of acetone, cooling it under tap water, filtering, and washing it with cold acetone. The acetone separates the pyrethrum extract from the sulfur, the separation being satisfactory if the volume of acetone is kept sufficiently low. If sulfur is present after the acetone is evaporated from the extract, the procedure should be repeated, the volume of acetone being kept as low as possible. After the acetone has been evaporated proceed as in the Official Method.

The results in presence of other ingredients are given in Table 2.

An examination of the results in the tables shows that, of the solvents used, acetone and chloroform were the only ones that gave complete extraction of the pyrethrins. It shows further that these solvents extract extraneous matter which saponifies to non-volatile acids and thereby causes error in the percentages of Pyrethrin II.

In the analysis of samples consisting of pyrethrum powder mixed with other insecticidal ingredients and diluents, Pyrethrin I should be determined by the Mercury Reduction Method (1), modified by using chloroform as the solvent and carrying out the extraction by shaking the sample and solvent for 1 hour on a shaking machine or by boiling the sample with the solvent under reflux for 1 hour and cooling it to room temperature while it is still connected to the condenser.

References:

(1) Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists, 5th Ed., 1940, p. 66.
(2) Unpublished.

—— • ——

Insecticide Base Oil

(*From Page 90*)

a hardship on some manufacturers in the production of oils that are satisfactory in this respect, and unnecessarily so.

"It would seem that the corrosion test might be desirable, at least from the theoretical angle. However, we must repeat that from the standpoint of practical experience, there are oils that would not meet the test proposed, but that are used in great volume in practice, with no adverse effects of any significance. Establishment of the test proposed will produce considerable difficulty by introducing an element of discrimination against some materials that are producing no objectionable results in practice.

"We do not favor the use of the unsulphonated residue test as a measure of odor. The real criterion of odor is the human sense of smell in the final analysis. The use of 104.5 per cent fuming sulphuric acid is so drastic as to impose difficulty and hardship on the manufacturer unnecessarily, since a degree of odorlessness satisfactory to the buyer and seller can be determined through the general agreement method of establishing the odor or lack of odor desired without having to run such a drastic unsulphonated residue test. Furthermore, a great many replicated tests and other standardization work would have to be done to establish a satisfactory test procedure for use on the types of oils that are used as bases for liquid insecticides of the household type.

"We agree with Mr. Gothard that it is very questionable whether any exact specifications in all the above particulars are desirable at all, since very satisfactory materials have been established through general adherence to the relatively simple specifications of CS. 72-38, and through the development of mutual understanding between manufacturers and users, and forced adherence to arbitrary standards that will be hard for everyone to agree upon and that will probably exclude some very satisfactory products, may cause unnecessary difficulties and dissensions.

"In any case, if adoption of a set of specifications somewhat as above appears inevitable, we favor Mr. Gothard's proposal that they be adopted merely as suggestive specifications kept on file to be made public and offered to inquirers rather than to be set up as the official standard of the Association."

—— • ——

A 1 per cent solution of a crude preparation of cetyl trimethyl ammonium bromide, called CTAB, which is a cationic detergent, is capable of reducing the number of bacteria on normal skin and of completely sterilizing dirty and greasy bowls and baths. The solution appears to have no harmful effect when applied to normal skin and wounds. J. M. Barnes. *Lancet* 1942, I, 531-2; through Chem. Abs.

—— • ——

Rotenone Determination

Let 35 grams of ground and sifted derris root stand overnight in 350 cc. of chloroform, or 40 grams in 400 cc. if the extract is also to be determined. Filter and evaporate 250 cc. of the filtrate and redistil twice with carbon tetrachloride. Boil under a reflux with 25 cc. of carbon tetrachloride containing three grams of rotenone per liter. Upon cooling a rotenone-carbon tetrachloride complex containing 72 per cent of rotenone crystallizes out. Repeat the determination with 25 cc. of carbon tetrachloride which contains two grams of rotenone per liter. Keep overnight at —1° C., filter and wash with carbon tetrachloride saturated with rotenone. Dry the precipitate at 40° C. Multiplication of the observed weight by 2.88 gives the content of crude rotenone. When two grams of rotenone has been added, the factor is to be reduced to 2.78.

For precise determinations the filter crucible is plugged by inserting a stopper into the rim below the filtering plate, the contents are loosened with a spatula, and five times the weight of the rotenone in rotenone-saturated 95 per cent ethanol is poured into the crucible. After four hours, suction is reapplied; and a further wash of 5 to 10 cc. of the ethanol saturated with the rotenone is drawn through. The crucible and contents are dried at 105° and weighed. P. A. Rowaan and Wa. M. Sesseler. *Chem. Weekblad* 38, 744-5 (1941).

—— • ——

Silverfish Control

Satisfactory control of silverfish was obtained by placing cards treated with a paste of sodium silicofluoride and wheat flour in suitable haunts of the insect. D. C. Swan. J. Dept. Agr. S. Australia 44, 420-2; through Chem. Abs.

POISON ANTIDOTES

Effects of common economic poisons and emergency treatment in accidental poisoning

By Dr. James C. Munch*

Fish and Wildlife Service
U. S. Department of the Interior

A POISON is a substance which chemically reacts with normal living tissues with the usual effect of injuring health or destroying life. The science of poisons, their effects and detection is known as toxicology, which is now considered as a subdivision of the broader science of pharmacology. Antidotes are substances which may be used to counteract the action of effects of poisons. Previous papers have discussed the general plan of study of the mechanism of action of poisons, antidote kits for some of the usual economic poisons and the application of these methods in the treatment of an outbreak of thallium poison. In this paper it is proposed to discuss the way by which a poison causes death (toxicodynamics), in order that we can prepare suitable methods of preventing or correcting such effects.

What are the usual poisons? Reference to textbooks and reports of poisoning in humans, either after a single dose (acute) or after long continued administration of smaller quantities (chronic) suggests that certain types of materials are most apt to be visualized in this connection. If we think of the war gases, DA (Diphenulchlorarsine) kills humans in a concentration of 5 parts per million after 10 minutes exposure; Ml (Lewisite) at 14 parts per million, and HS (Mustard Gas) at 23 parts per million; Hydrocyanic acid at 2,000 and Carbonmonoxide at 4,000 parts per million. For the usual poisons met in homicide cases the toxic doses for adults, after oral administration, are 2-5 mg. of aconitine; 16-30 mg. of strychnine, 60 mg. of nicotine, 150 mg. of potassium cyanide and 200-325 mg. of "arsenic," mercuric chloride and opium.

These figures give some idea of the relative toxicity of the poisons listed. In a recent book, the Rat in Laboratory Investigation, Holck has assembled data on the dosage of drugs for these animals. From this information, considering only oral doses killing most of the test animals, we find that the lethal dose of strychnine is 15 mg/kg; for thallium sulphate 31; for mercuric chloride 50; rotenone and derris, 100; other poisons require larger doses.

Justus C. Ward and I have been studying this type of information for years, checking it in the laboratory and endeavoring to find greater supplies of readily available toxic substances for use as economic poisons. After our studies have shown that certain types of substances appear to be toxic to our laboratory rats, we then are confronted with the necessity of confirmatory laboratory and field studies to determine whether a suitable bait can be developed so that wild rats or other animals on whom control is to be exercised will be induced to consume the material. This is not a simple study as all of you can appreciate from your own experience. The success or failure in the use of a poison depends to a large extent on the nature of the bait in which it is distributed: First for acceptability to the animals, and secondly to prevent decomposition of the poison used.

From the experience in the Fish and Wildlife Laboratory, as well as in many other laboratories and in your field practices, it has been possible to develop a series of poisons which have proven of some value in control practice. Until the War, the question of price was of some importance. Since the War started it has been a question of availability without regard to price. Studies are being continued to develop yet more information on this subject of "new poisons" and we hope to be able to report results at the proper time. To date arsenic, barium carbonate, fluorides, phosphorus, strychnine and thallium have proven effective under proper conditions.

"Arsenic" chemically is arsenious oxide, often termed arsenious acid, As_2O_3. The fatal dose for humans is about 200 mg. or 3 grains. It is a mild slow corrosive, relaxing the capillary blood vessels and increasing their permeability thus causing conditions similar to inflammation. Extreme irritation develops in the stomach and intestines leading to progressive vomiting and collapse. Secondary effects are noted on the nervous system, fatty degeneration of the kidneys and liver and occasionally direct paralysis of the heart. An antidote therefore should be an emetic to remove any arsenic that is still present in the stomach, followed by egg albumin as a demulcent. If the arsenic is removed in time, the life of the patient may be saved.

Barium Carbonate stimulates

* Address before Natl. Pest Control Assn., Pittsburgh, Oct. 26, 1942.

An Army Travels on its Ammonium Sulfate

Did you think we were going to say "An army travels on its stomach?" Well, it's the same thing.

Many of the essential chemicals used by farmers in raising plants and animals are derived from coal.

One of the fundamental needs of the farm is nitrogen. It produces bigger yields and better qualities.

When the First World War started, the shortage of imported nitrogen made it difficult to get good fertilizers. Today, large supplies of nitrogen are obtained from ammonium sulfate recovered from the coal carbonized in Koppers coke ovens.

Koppers serves the farmer and the food industry in many other ways.

Fruits are often destroyed by diseases caused by fungi, or by dropping before ripe. Diseases of fruits are prevented by Koppers Flotation Sulfur. The premature dropping of unripe fruit is being prevented through the use of synthetic plant hormones made from naphthalene of which Koppers is a major producer.

Koppers built the first large American plant for recovery of ammonium thiocyanate, an essential raw material in the production of complex organic thiocyanates for insecticide manufacture.

Farmers control animal parasites with coal tar products . . . they get their products to market on roads built of coal tars . . . they prevent decay and destruction of wooden farm structures through the use of lumber pressure treated with Koppers creosote . . . they use Koppers American Hammered Piston Rings in many farm vehicles.—Koppers Co., Pittsburgh, Pa.

Buy United States
War Bonds and Stamps

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

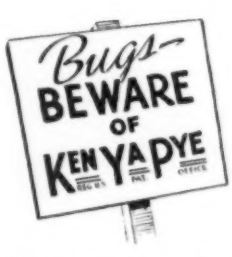
Workers in our Bartlett Hayward Division are now privileged to wear the Navy "E" and Maritime "M" emblems.

KENYA COLONY

Produces The

FINEST PYRETHRUM

NATURE'S SAFE VEGETABLE INSECTICIDE



Hundreds of thousands of pounds are being shipped monthly, but Kenya has suddenly been confronted with unexpected and enormously increased demands . . . for military use, for the steadily increasing requirements of agriculture as well as for the more prosaic household uses. This enormous demand is further proof of the efficiency of

KENYA PYRETHRUM

and this demand Kenya is making every effort to meet.

KEN YA PYE

REG. U. S. PAT. OFFICE

Meaning KENYA PYRETHRUM

KEN-YA-PYE is the enemy of household, garden and farm insect pests

---

all muscle by direct action on the fibers; it causes constriction of the muscles lining the blood vessels and paralyzes the heart muscle, also later causing paralysis of the central nervous system. The fatal dose for humans is between 4 and 40 grams (16-160 grains), and for rats 750 mg/kg. Treatment consists of mustard or other emetics to remove any barium from the stomach, followed by magnesium sulfate to counteract the barium action, to relieve the simulation, and to form the relatively insoluble barium sulfate. Barium sulfate is soluble in cold water to the extent of 2.3 parts per million, and in boiling water to the extent of 4 parts per million. Therefore, the magnesium sulfate changes the soluble barium products into the relatively insoluble sulfate; any excess of magnesium sulfate acts as a laxative and aids in removal of the barium sulfate.

Fluorides produce local necrosis of mucous membranes, gastroenteritis, collapse, liver damage, due to destruction of digestive enzymes as well as to disturbance in calcium metabolism. Marcovitch has made a series of studies on sodium fluoride and sodium fluosilicate, which have been largely responsible for the introduction of this substance into use against cockroaches and rats, and to a definite extent in control field in entomology. An antidote kit has been prepared against the fluorides which contains calcium gluconate to convert the soluble fluorides into the relatively insoluble calcium fluoride. This dissolves in water at 18° C., to the extent of 16 parts per million and at 26° to 17 parts per million, which is much less soluble than the other fluorine salts.

Mustard or other emetics may be given to remove the calcium fluoride, followed by additional calcium gluconate which is to react with any fluorides excreted into the gut. Magnesium sulfate is then administered to act as a laxative. Finally milk is suggested as a readily available source of calcium. The lethal dose of sodium fluoride for a rabbit orally is about 200 mg/kg; and presumably the killing doses orally to rats would be from 200-500 mg/kg, although no laboratory data on this point has been found and confirmed. Sodium fluosilicate is somewhat less toxic than sodium fluorides, presumably about one-third as toxic. It is suggested by Marcovitch that arsenicals are 9 times as toxic as sodium fluosilicate, and 30 times as toxic as sodium fluoride. It would appear that the principal mechanism of fluoride poisoning is by removal of available calcium from the system.

Phosphorous, as yellow phosphorous or in such combinations as zinc phosphide is very poisonous. For yellow phosphorous, the toxic dose is about 50-100 mg. or 1-1½ grains. For zinc phosphide no data are available on humans but the toxicity on laboratory scale for rats is of the order of 25 mg/kg. Yellow phosphorous dissolves in the fats and bile in the body, is rapidly absorbed, causing irritation of the gut with marked vomiting and diarrhea. If the individual survives there is apparent recovery for several days, followed by fatty degeneration of the liver and other organs, brain disturbances, and death by heart failure. In addition, zinc phosphide probably forms phosphine, PH_3 which is a violent poison, 250 parts per million causing death after a rather short period of exposure, associated with pulmonary congestion.

An antidote has been prepared consisting of mustard of other emetics, followed by potassium permanganate to oxidize the phosphorous to harmless phosphates. This is followed by copper sulphate to furnish an insoluble copper compound and then by epsom salts to act as a purgative in removing the insoluble copper combination. Phosphorous poisoning is very difficult to handle because of the deceptive disappearance of symptoms some 6 hours after original administration, then the unexpected delayed poisoning reactions.

Strychnine has been used more for the control of predatory animals and ground squirrels, perhaps, than it has for a rat poison. The fatal dose for humans is about 16-30 mg., or ¼-½ grain; for rats the killing dose is in the neighborhood of 10 mg/kg. Strychnine is rather readily absorbed, acting on the transmission of impulses within the spinal cord, leading to typical convulsions and death from fixation of the diaphragm and respiratory failure. Ether or chloroform are desirable for the protection of humans or animals that have taken a fatal dose of strychnine; since it is difficult to properly administer these without giving over-doses which lead to death, it has seemed advisable in antidote kits to use some of the barbiturates instead. Emetics as mustard may be used if convulsions are not present; potassium permanganate and a fat are then given to delay absorption from the gut. Treatment must be started early and continued in order to obtain success in the use of strychnine antidotes.

Thallium causes gastritis and central respiratory failure: Emesis and nephritis may also develop. The fatal dose of thallium sulfate for rats is 25-30 mg/kg: the killing dose for adults is not definitely known but is probably about 400 mg. (7 grains). The treatment consists of an emetic as mustard, sodium iodide to convert the soluble thallus compounds into the insoluble thallus iodide (insoluble as the monoiodide, TlI). The administration of bismuth subgallate may be helpful to delay absorption from the gut; symptomatic relief and supportive treatment are then indicated.

Attempts have been made to develop "universal antidotes." The only one worthy of mention is a mixture of 2 parts of activated charcoal with 1 part each of tannic acid, kaolin and light magnesium oxide. This has some merit in adsorbing poisons but otherwise is of little supportive value. In other words these poisons kill by their effects on the heart, the blood vessels, the gastro-intestinal tract or the respiration: antidotes attempt to prevent such poisonous effects. As we know the mechanism of toxiodynamics, scientific antidotes may be developed.

—— • ——

Insect Repellents

As an active ingredient of insect repellents suitable for use on the skin, lauronitrile or other straight-chain aliphatic nitrile having 10-14 carbon atoms is used. A. W. Ralston and J. P. Barrett, to Armour & Co. U. S. Patent No. 2,280,850.

☆ NOW More Than Ever Make Your Floors Last Longer With FEDERAL FLOOR FINISHES

☆

To-day, floors are receiving greater abuse than ever. Heavy war equipment, the speed and rush of workers, lack of time to properly maintain floors —all contribute to the hazards caused by splintered wood and lack of sanitary conditions.

Federal Chemists have realized the necessity of meeting wartime conditions. First — quick application — second, quick drying to prevent lost time — third, proper penetration of material to prevent splintering — fourth, added toughness and resistance to wear and tear — fifth, ability to cleanse easily and quickly.

Federal Floor Finishes are made in all types — Penetrating Sealers and Finishes — to meet all conditions of service.

Consult us. Let us help you solve your floor problems — no cost or obligation.

FEDERAL VARNISH CO.

Floor Finish Division

Dept. 1142 — 331-337 S. Peoria Street
Chicago Illinois

☆

HAAG

Manufacturers

"Better Quality for Better Maintenance"

LIQUID FLOOR CLEANSERS:

★ **ZEPHYR-BRITE.** The better neutral cleanser. Compounded to give the maximum in economy for the safe, thorough cleansing of fine surfaces. Zephyr-Brite does more than dissolve the dirt and grime in the pores of the floors—it floats this dirt to the surface for easy removal. A more concentrated cleanser which enhances the beauty and prolongs the life of better floors and other fine surfaces.

★ **VEG-O-SCRUB.** A new high in the low-priced field. Made from pure vegetable oils—economical—efficient and neutral in action. A clear, viscous and uniform product. Especially recommended for cleaning wood, linoleum, asphalt tile, terrazzo and composition floors — WILL NOT INJURE ANY WASHABLE SURFACE.

ALSO A COMPLETE LINE OF VEGETABLE OIL JELLY SOAPS for floors and general cleaning—45%, 65% and 80%.

- **LIQUID TOILET SOAPS**
- **SURGICAL SOAPS**
- **DISINFECTANTS**
- **SPECIALTY PRODUCTS**

Write for samples and wholesale price list.

THE HAAG LABORATORIES, INC.

6101-6109 S. May Street, Chicago

NEWS

Changed Specifications Save Metal

Changes in Federal Specifications for pyrethrum powder and sodium fluoride were made recently, ruling out the necessity for packing in cans or metal containers in an effort to conserve metal.

Clarence Crowell Dies

Clarence P. Crowell, first vice-president and a founder of Rochester (N.Y.) Germicide Co., died suddenly while on a golf course October 3. He had been active in the business since 1916, in charge of company purchasing. A member of many civic and social clubs of Rochester, he was a thirty-second degree Mason. Mr. Crowell leaves his wife; two sons, Colonel C. W. Crowell of Washington, D. C., and Lieutenant Nelson J. Crowell of New York; and one daughter, Mrs. Morden R. Buck of San Francisco.

Oregon Ingredient Label

Manufacturers registering under the Oregon Economic Poisons law have been notified by E. H. Jefferson, supervisor; Feeds, Fertilizers, Economic Poisons; Department of Agriculture; that they must label their products giving percentages and names of all active ingredients having insecticidal or fungicidal properties, and the total percentage of inert ingredients present. This must be done by January 1, 1943, and is in addition to the requirement of filing similar information with the Department.

Dr. R. C. White in Hospital

Dr. Robert C. White of Robert C. White Co., Philadelphia, insecticide manufacturers, was stricken with an abdominal disturbance at his home on October 19. He was moved the next day to Jefferson Hospital, Philadelphia, where he is still confined. Since being admitted to the hospital, Dr. White's condition has improved steadily but he will not leave the hospital until early in November. Dr. White has long been a prominent member of the National

DR. ROBERT C. WHITE

Association of Insecticide and Disinfectant Manufacturers, is a past president of the association, and is widely known throughout the industry. He has served for the past several years as controller of the City of Philadelphia.

Offer Garbage Can Deodorant

San-A-Lizer Corp., Burbank, Calif., is advertising a new deodorizer for garbage cans which, it is claimed, also repels, ants, flies and rodents.

Claim Moth Proof Wool

A new process that is claimed to render wool mothproof and resistant to the deleterious effects of laundering is reported to have been developed by the Textile Foundation of the U. S. Bureau of Standards, Washington, D. C. What this sensational idea, if practical from a manufacturing standpoint, portends for affected industries is obvious. In order to produce the desired results in the wool, its molecular structure is changed in such a way that the sulfur of wool, which the moths attack first, is transformed to a more stable and less digestible state. At the same time, the softness and strength of the wool is unaffected and it is claimed to be free from shrinkage. A story in the N. Y. *Herald Tribune* of October 20, 1942, points out that the process has been worked successfully in some of the largest mills, including one in New Jersey.

Sonneborn Personnel Changes

Henry F. Copeland, former sales manager of L. Sonneborn Sons, Inc., New York, refiners of white mineral oil and petrolatum, has just been advanced to chairman of the marketing committee. R. W. (Bill) Bjork becomes sales manager. Edgar E. Brand, formerly western district sales manager has been made director of sales with headquarters at Chicago, and Harold C. Green is now eastern sales manager.

Ahlborn Gets 20-Year Gift

Oscar Ahlborn, chief chemist of Twin City Shellac Co., Brooklyn, was recently presented with a wrist watch in recognition of his twenty years' service in the company.

Amend Import Order M-63

Under General Imports Order M-63, Amendment 7, the WPB has added red squill, pyrethrum or insect flowers, and pyrethrum or insect flowers, advanced in value or condition to List I of the order. Products contained on List I are those of a critical nature and are given first preference among products imported. The Commerce Import Class No. for red squill is 221.65, 2202.0 for pyrethrum, and 222.31 for flowers "advanced in value or condition."

Lawrence With Permutit

F. I. Lawrence, who left Atlantic Refining Co., Philadelphia, early last summer to join the Permutit Co., New York, is engaged in research connected with adapting Permutit Company's materials and equipment to new processes. Mr. Lawrence is well known in the insecticide and disinfectant field through several years of attendance at the industry's conventions. He had charge of the sale of Atlantic's "Ultrasene," deodorized insecticide base, among other products.

It's Important Now —

for everyone to maintain health and sanitation. Lost man hours in war production is a loss that very seriously retards our war effort.

In the factories and at home, PINE OIL DISINFECTANTS are of tremendous value in keeping up a steady stream of ships, planes, tanks and guns.

You are overlooking a "good bet" if you don't make a serious sales effort on the Pine Oil Disinfectants. We have some mighty fine Pine Oil Disinfectants that you could handle profitably. Write us and we will send full details.

THE CHEMICAL SUPPLY COMPANY

2450 Canal Road — Cleveland, Ohio

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Manufacturers Of

Disinfectants, Insecticides, Polishes, Cleaning Compounds, Liquid Deodorants, Building Specialties, Etc.

"Since 1898"

Refined Dewaxed
WHITE SHELLAC

GRP

MANILA GUM

A Message to Manufacturers of Non-Rubbing Floor Waxes

Shellac, imported exclusively from India, is vital to the war effort and therefore under strict governmental regulation both with respect to its importation and marketing.

Manila Copal Gum stocks, normally imported from the Dutch East Indies and Manila, are already nearly exhausted.

The many GRP customers who have purchased these materials will understand our present inability to supply their needs and will, we know, appreciate the necessity of the fullest possible co-operation with our government in its efforts to win the war.

We shall look forward earnestly to a return of more normal conditions. May it not be long!

GILLESPIE - ROGERS - PYATT CO.

80 John Street — Incorporated — **New York, N. Y.**

Insecticide-Disinfectant N.Y. Meeting Dec. 7-8

WAR production of insecticides, disinfectants, and allied sanitation chemical products will be the keynote of the 29th annual meeting of the National Association of Insecticide & Disinfectant Manufacturers to be held at the Hotel Roosevelt, New York, on December 7 and 8. The war production program and its effects on the sanitation materials industry, the plans of the industry to meet the war needs for the products which it manufactures, and the general problems confronting manufacturers in the field, including the problem of staying in business if the war continues for another two or more years,—these will come up for discussion, according to H. W. Hamilton of the Koppers Company, White Tar Division, Kearny, N. J., secretary of the Association and chairman of the program committee.

Among the features of the program will be a symposium on the outlook in various raw materials, and also one on the container situation. In fact, container problems will hold an important place on the program. Several speakers from W.P.B. and the O.P.A. have been invited to speak on these subjects. The question of insecticide and disinfectant specifications for the armed forces and also the effect of demand for these materials for our forces are scheduled for discussion by several speakers, including also the present aerosol insecticide program of the Army. According to Mr. Hamilton, the program will include subjects of vital interest to every manufacturer in the industry. He states that he considers the coming meeting one of the most important which the Association has held since its founding in 1914.

The 29th annual meeting will cover Monday and Tuesday, December 7 and 8 with two sessions daily and group luncheons each day. The two-day session will end with an informal dinner on Tuesday evening, Dec. 8 but the cocktail party and entertainment features of previous years will be abandoned this year. John Curlett of McCormick & Co., Baltimore, president of the Association will preside at two sessions of the meeting and Henry A. Nelson of the Chemical Supply Co., Cleveland, first vice-president, at the other sessions. General and financial arrangements are in charge of John Powell of John Powell & Co., New York, treasurer of the Association. Preceding the regular meeting, the Board of Governors will hold its annual meeting on Sunday evening, Dec. 6 at the Roosevelt Hotel.

H. W. HAMILTON

—— • ——

Insecticide Advisory Meeting

A meeting of the Household and Industrial Insecticide Manufacturers Industry Advisory Committee of the War Production Board was held in Washington on October 7. Subjects discussed included higher costs resulting from an enforced switch in containers and a possible O.P.A. formula for allowing higher prices where such a change entailed increased costs. Army and Navy insecticide specifications, and the present aerosol program of the Army also came up for discussion. Opinions indicated that among those at the meeting there was little hope that any pyrethrum would be available for regular civilian uses during 1943. The next meeting of the committee will be in Washington on November 10.

—— • ——

Army Louse Powder

Purchase of a large quantity of louse powder by the Quartermaster Corps of the U. S. Army and the report that still further large quantities will be purchased have brought forth considerable discussion in the insecticide industry. Formula for the product purchased has been given as follows:

Pyrethrins	0.2%
IN-930	2.0%
Phenol S	1.0%
Dinitroanisol	2.0%
Pyrophyllite	94.8%

The pyrethrins are incorporated in the form of a high concentrate pyrethrum extract. IN-930 is isobutyl undecylinamide manufactured by E. I. du Pont de Nemours & Co. (Also sold in combination with pyrethrum extract by John Powell & Co., New York, under the name, "Pyrin.") Phenol S is anti-oxidizing agent No. 64 manufactured by Dodge & Olcott Co., New York. Dinitroanisol is an ovicide manufactured by several producers of dyestuff intermediates. Pyrophyllite is a dispersing clay supplied under the name of "Pyrax" by the R. T. Vanderbilt Co., New York. Reports from Army quarters in Washington state that six million 2-oz. packages (regular 2-oz. spice cans, paper sides and metal ends) of this powder are being supplied by McCormick & Co., Baltimore, on the initial bid.

—— • ——

Commissioned in Coast Guard

Paul Date, president of Welmaid Mfg. Corp., Chicago, manufacturers of silver polish and household metal cleaners, has been commissioned a lieutenant commander in the Coast Guard Reserve at Chicago. Mr. Date, a senior Coast Guard Auxiliary officer for some time, will be in charge of enlisting new members who will have the task of manning lake patrol boats, life boat stations and some lighthouses.

Reilly

CRESYLIC ACIDS

Reilly produces the entire range of Cresylic Acids — in standard grades or to buyer's specifications.

CRESOLS

U.S.P., Meta Para, Ortho and special fractions—to all specifications. In drums or tank car quantities for shipment from Indianapolis and Newark.

TAR ACID OILS

—in all grades, from 10% to 75% tar acid content or of specified phenol coefficiency, carefully blended. In 55 gallon drums and tank cars from Chicago and Newark.

XYLENOLS

Low boiling, high boiling and symmetrical Xylenols. In tank cars and drums from Indianapolis and Newark.

Reilly COAL TAR PRODUCTS

NAPHTHALENE

Crude and refined prime white Naphthalene — in chipped, crystal, flake and powdered form.

REILLY TAR & CHEMICAL CORPORATION

MERCHANTS BANK BLDG., INDIANAPOLIS, IND.
500 Fifth Av., New York 2513 S. Damen Av., Chicago

17 Plants At Your Service

A DEPENDABLE BULK SUPPLY

FLOOR WAX

HEAVY DUTY • SELF-POLISHING WEAR RESISTANT

Here's a wax especially designed to stand up under heavy traffic. Produces smooth, glossy, non-slip finish. Requires no rubbing. Dries quickly. It is one of the most practical and economical materials made to protect and beautify the finish of floors.

DISINFECTANTS

ALL PRACTICAL TYPES

Whether you are interested in disinfectants made from coal tar derivatives or steam distilled pine oil . . . or whether you want the new phenolic No. 32 disinfectant, you'll find here at Hollingshead a dependable source of supply.

DEGREASING COMPOUNDS

EMULSIFY 100%
SAFE • NON-INFLAMMABLE

Cuts degreasing time and costs in half. Does the toughest cleaning job with a degree of ease and speed never before considered possible.

Hollingshead, one of the leaders in the sanitary maintenance products field, is in a position to supply the above items in drum quantities. Here is a real opportunity for sanitary supply institutions who have facilities for repacking their own materials. Generous samples gladly sent to rated companies. Write for complete details. Dept. S

R. M. HOLLINGSHEAD CORP.
Industrial Division
Camden, N. J. • 19 Rector St., N. Y. C.

Use Cheap Containers—OPA

The chemical industry was informed by the O.P.A. last month that only in "special and unusual cases" would there be a relaxation in ceiling prices to permit producers to pass on to purchasers increases in container costs. The stated reason for this attitude is that the O.P.A. wants to "encourage the substitution of cheaper containers to replace steel and other critical materials no longer available for packaging numerous chemicals." In order for manufacturers to be permitted to raise prices of their products to allow for much increased container costs, they must first prove to the O.P.A. that it is impossible to use a cheaper substitute container. This is intended to conform to the W.P.B. Limitation Order L-197 that prohibits packaging in steel ninety important chemicals, thus allowing manufacturers to pack in cheaper substitute containers. On the other hand, to producers who must go to more expensive packagings: glass carboys, etc., no relief will be granted from the "price squeeze" unless every effort is made to find a cheaper type of container. Wherever possible, the O.P.A. states "sellers will be asked to absorb the cost increases as their contribution to the battle against inflation."

The War Production Board's Limitation Order L-197 prohibits after November 14, 1942, the use of new or second hand steel shipping drums for packing approximately 200 food, chemical and petroleum products.

Completex To Stop Claims

Completex Manufacturing Corp., New York, has agreed to stop making claims for its insecticide, "Completex Powder," to which the Federal Trade Commission objects. Completex will discontinue claiming that one application of the insecticide will rid premises of roaches, ants or other insects for one year, or any other length of time beyond which the powder is effective; and that the preparation destroys eggs of insects or their larvae. The company has also agreed to stop its claim that the product is non-poisonous or harmless to human beings and household pets; and to discontinue misrepresenting the time required to control infestations of insects generally or any specific kind of insect.

ANNOUNCING . . .

The War Production Issue of SOAP & SANITARY CHEMICALS to be brought out as the regular December issue in conjunction with the 29th annual meeting of the National Association of Insecticide & Disinfectant Manufacturers. An issue to be devoted to the war problems of the insecticide, disinfectant and sanitary chemical manufacturers. Out December 7!

N.J.P.C.A. Aids Rat Drive

The New Jersey Pest Control Association, meeting in Newark, N. J., last month, passed a resolution offering its services free to help Hudson County rid itself of rats that jeopardize the health of local civilian and military populations. The offer was made known in a letter from Association President John K. Medoff to Hudson County Engineer Frank J. Radigan, who is studying the problem. It recommended that Ernest M. Mills, of the U. S. Fish and Wildlife Service, Dept. of the Interior, be placed in charge.

Stirrup Pump Controversy

Standard Container Co., Rockaway, N. J., maker of insecticide containers, spray guns, etc., was recently awarded a large contract for stirrup pumps by the Defense Supplies Corp., and as a result has been the center of a much publicized controversy. Standard's low bid on the pumps and exclusive distribution arrangement, which was set up subsequent to the awarding of the contract for 500,000 of these pumps, caused New York newspapers to raise the point that since only one jobber would handle exclusive distribution for New York City, and the jobber was controlled by Standard Container, a monopoly existed. Such a set-up is contrary to OPA policy, and it is now indicated that a new distribution agency or agencies will be established.

Tighten Arsenic Control

Control over the use of arsenic was tightened by the War Production Board, October 21. A revision of General Preference Order M-152 prohibits the use of arsenic except as authorized by the W.P.B. and requires all those holding 650 pounds or more to report their inventories to the W.P.B. The original order made deliveries of arsenic subject to W.P.B. approval, but did not control end-use. The revised order, in addition to controlling end-use on future allocations, will control the use of existing inventories. Deliveries and use of 650 pounds or less in any calendar quarter for the manufacture of medicinal chemicals or preparations, or in research, testing, analytical or educational laboratories, are exempted from the restrictions of the order. Use by any person, for medicinal purposes, or any medicinal preparation containing arsenic also is expressly permitted. The Army, Navy Maritime Commission, and War Shipping Administration are not required to obtain authorization for use of arsenic in their possession on the effective date of the revised order, nor are these agencies required to file inventory reports.

Hold Chi. Rat Control Week

Rat Control Week, sponsored by Chicago municipal, civic and social agencies, was observed in that city the week beginning Oct. 26. Featuring the project was a demonstration extermination campaign. Board of Health and Public Works authorities provided men to place baits on public streets and alleys and representatives of private agencies conducted an educational campaign among property owners and tenants.

Adkins Consultant Broker

William H. Adkins, formerly of the sales department of Schimmel & Co., New York, and for ten years purchasing agent for Givaudan-Delawanna, Inc., New York, has established himself as a broker in New York to act for out-of-town buyers of perfuming materials, drugs and chemicals. He will specialize in locating scarce and critical materials.

Come to Wecoline for

FATTY ACIDS

Of High Quality

Wecoline Distilled Fatty Acids have set the standards for Purity for many years.

Wecoline specializes in such distilled fatty acids as:

COCOANUT - LINSEED - SOYA
TALLOW - WHITE OLEIC - STEARIC - PEANUT

and in addition special Fatty Acids such as:

CAPRIC - LAURIC

Wecoline also produces Twitchell Split Fatty Acids.

Wecoline is producing Fatty Acid Products to meet rigid War Specifications set by the synthetic rubber, fabric coating, non-shatterable glass, bullet resistant glass, leather treatment and numerous other industries. We are, therefore, especially qualified to handle your unusual needs.

WECOLINE DIVISION
E. F. DREW & CO., Inc.
OIL and FAT PROCESSORS · · · EDIBLE and INDUSTRIAL
BOONTON, N. J. NEW YORK BOSTON CHICAGO

ROTENONE

and

DERRIS RESINS

Manufacturers of finished insecticides have come, over a period of years, to look to DERRIS, INC. as headquarters for rotenone and derris products of all types. We are specialists in this field and are prepared to supply specifically compounded products made up according to each customer's varying needs.

Timbo Powder — Derris Powder
of Finest Grind

DERRIS, Inc.

79 WALL STREET NEW YORK, N. Y.

COLORS

for

Toilet Soaps — Shampoos
Liquid Soaps — Lotions
Para Blocks — Hand Soaps
Shave Creams — Sweep Compounds
and other Chemical Specialties

* * * *

Does your product require a *certified color* under the new law? Let us advise you, and supply you with exactly the right color for the right purpose!

Interstate Color Co., Inc.
9 Beekman Street New York

"Color it for greater sales appeal."

STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, and March 3, 1933, of Soap & Sanitary Chemicals, published monthly at New York, N. Y., for October 1, 1942.

State of New York, County of New York.

Before me, a Notary Public in and for the State and County aforesaid personally appeared Grant A. Dorland, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Soap & Sanitary Chemicals and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, MacNair-Dorland Company, Inc., 254 W. 31st St., N. Y. C.; Editor, Ira P. MacNair, 254 W. 31st St., N. Y. C.; Managing Editor, Wayne E. Dorland; Business Manager, Grant A. Dorland, 254 W. 31st St., N. Y. C.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

MacNair-Dorland Co. Inc., 254 W. 31st St., N. Y. C.; Ira P. MacNair, 254 W. 31st St., N. Y. C.; Grant A. Dorland, 254 W. 31st St., N. Y. C.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stocks, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the months preceding the date shown above is ——. (This information is required from daily publications only.)

GRANT A. DORLAND,
Business Manager.

Sworn to and subscribed before me this 21st day of September, 1942.

Samuel Newmark, Notary Public, Nassau County Clerk's No. 1203. New York County Clerk's No. 166. Commission expires March 30, 1944.

New Odorless Deodorant

A NEW deodorant, O.D.-Formula O.D.-30, has been developed by Dr. James H. Dalbey, industrial chemist of Chicago and New York, formerly active in rubber research with U. S. Rubber Co., and Du Pont, and his close associate Dr. Walter H. Eddy, Professor Emeritus of the department of Physiological Chemistry at Teachers College, Columbia University; former director of the Good Housekeeping Bureau; and expert consultant on foods to the Quartermaster General of the U. S. Army. The O.D. Chemical Corp. has been formed and set up with headquarters at 60 E. 42nd St., New York City for the new product's exploitation.

Instead of simply "covering" objectionable odors, says Dr. Eddy, the new product actually destroys them by oxidation. It has as its active ingredient potassium permanganate in an alkaline medium (borax and bicarbonate) whose activation as an odor destroyer depends upon a catalyst developed by Dr. Dalbey. O.D.-30 is not claimed to remove the source of the offensive odor—only the odor itself.

The powder form in which the product will be sold is not a deodorant itself. Water solution is necessary to develop the deodorizing ability. The solution is highly sensitive and containers, receptacles and appliances used to dispense it must be cleaned and free from dirt, grease and acid. A cake of soap dropped in a tub of the solution, say the developers, would largely destroy its deodorizing qualities, yet, the soap itself could be spread over a surface in butter-like fashion and its odor would be removed by a spraying of O.D.-30.

Among successful experiments claimed for O.D.-30 were demonstrations of its deodorizing efficacy in dog pounds, restaurants, taverns, soda fountains, mortuaries, hospitals, etc. Much of the development and experiments on which conclusions as to uses and applications were made, are said to have been conducted by Dr. Lloyd Arnold, Professor of Bacteriology and Public Health of the College of Medicine, University of Illinois.

Dr. Dalbey said that numerous efforts to "break down" the chemical composition of the product undertaken by himself and associates, as well as by outside groups, have been totally unsuccessful. Unless a similar catalyst were discovered, he indicated that imitations would be impossible.

—— • ——

Ease Carbon Tet. Ban

The W.P.B. on October 10, restored the provision of Order M-41 which permits users of carbon tetrachloride for purposes assigned a B-2 rating to consume 100 per cent of the amount used in the base period. This provision, which was in effect from August 1, until September 30, lapsed, but is now restored until December 31. B-2 ratings are assigned users for degreasing machines other than those used for Army and Navy contracts; packaged spotting and cleaning preparations; dry cleaning establishments, and for manual cleaning of other than metal parts of electrical equipment. Such users may now consume 100 per cent of their monthly consumption for the year ending September 30, 1941.

—— • ——

Grant L-197 Extension

Manufacturers allowed to pack products in steel drums owned by them, as provided by Order L-197, were given a two-week extension on October 23, to November 7, to acquire title to a supply of used drums. L-197 lists permitted uses for steel drum containers owned by the packer. Originally, it prohibited the use of steel drums for packing specified products after September 14, if the packer did not have title to them. The amendment, No. 2, was deemed necessary, according to the W.P.B., because some manufacturers were accustomed to selling their used containers and then repurchasing them as they needed them instead of retaining title as the order requires. After November 7, the strict provisions of the order curtailing the use of steel drums again will become operative. Amendment No. 2 also sets up a definition of used drums to mean any drum which has been partially or wholly filled with any product or commodity.

—— • ——

Propose Sulfur Candle Law

According to a letter sent to the National Association of Insecticide and Disinfectant Manufacturers, Inc., New York, from the Assistant City Attorney, Milwaukee, Wis., a proposed ordinance would restrict the sale of sulfur candles for fumigating purposes within that city to licensed fumigators. The new law would not restrict the sale of candles for industrial, manufacturing or agricultural purposes, nor for use outside the city limits.

The background and reason for such a law is claimed to be that in many fumigating cases the users were inexperienced and that in some cases they have used sulfur candles while roomers and boarders were asleep in adjoining rooms. The Health Department had the fumigators' License Law passed and now is requesting the proposed ordinance to regulate the sale of sulfur candles. Under Section 77-5 of the Milwaukee Code of 1941 no person is allowed to fumigate without first obtaining a license. Since the passage of that law there have been numerous cases of persons fumigating premises without licenses. In prosecuting these cases the Court recommended that the sale of sulfur candles to ordinary lay persons be regulated to aid in the enforcement of the Fumigation License Law.

—— • ——

Loading Order In Effect

In order to achieve maximum loading of freight cars carrying civilian freight, packing instructions for liquids in metal drums have been outlined by the ODT in its special directive, No. 18, which became effective Nov. 1. Revision No. 1 of that directive states: "liquids in metal drums of not less than 40-gallon capacity each shall be loaded, each drum placed on end, in one tier covering the entire floor space."

F. & S.

Quality Colors *for* TOILET SOAPS LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N. Y.
Import—Manufacture—Export

"Good" Disinfectants

Pine Oil Disinfectants Coefs. 3 and 4

Phenolic Emulsifying Disinfectants Coefs. 2 to 20

Soluble Cresylic Disinfectants
(B.A.I. and Commercial Standard)

Saponated Solution of Cresol
U.S.P. XI (Cresol Compound Solution)

All made under careful laboratory control. Phenol coefficients determined by LaWall and Harrisson Laboratories.

Other "GOOD" Products

Insect Sprays	Vegetable Oil Soaps
Cattle Sprays	Liquid Soaps
Bed Bug Sprays	Scrub Soaps (Liquid & Jelly)
Agricultural Insecticides	Floor Wax and Polishes

BULK PACKAGES AND PRIVATE LABEL

JAMES GOOD CO.

Manufacturing Chemists—Since 1868
2112 E. SUSQUEHANNA AVE. PHILA., PA.

GREATER *Kills* with CERTOX

REG. U. S. PAT. OFF.

Rodent Seed, Ant Jelly, Arsenic, Carbolic, Pyrethrum, Cresylic, Red Squill, Derris Powder, and other effective chemicals that do a thorough job for the Pest Controller. The quality of CERTOX products remains unaffected by the national emergency. Prices, too, are near normal.

YOUR GUARANTEE:

All CERTOX products are manufactured according to exacting specifications under personal supervision of I. H. LUTTAN, B. S. A., Entomologist.

SPECIAL CONTRACT PRICES Available to Cover your Annual Needs.

YORK CHEMICAL CO.

Suppliers of Complete Exterminating Chemicals.
424 West 18th Street, New York, N.Y.

Classified Advertising ~

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap.* It will place you in touch with the entire soap and sanitary chemical industry.

★ ★ ★ ★

PCO's Discuss Material Shortages At Annual Meeting In Pittsburgh

ADJUSTMENT of the operations of the pest control industry to the war needs of the country, in the face of raw material shortages, growing scarcity of experienced operators and rising costs was the keynote of the 10th annual meeting of the National Pest Control Association held at the Hotel William Penn, Pittsburgh, October 27, 28, 29.

Several speakers representing government agencies sounded the warning that there would be a growing problem for the pest control industry over the coming year on raw material supplies. The needs of the armed forces, they indicated, would take practically all available pyrethrum next year leaving only small stocks, if any, available for the pest control operator. Pyrethrum users were warned that they must turn to other materials wherever they can and stretch present stocks as far as possible. Use of makeshift substitutes will be forced upon the industry over the coming year, it was indicated.

Attendance at the meeting was large in spite of current travel difficulties, with the registration totaling almost 350. At the final meeting session, St. Louis was chosen as the site for the 1943 convention, and F. E. Bohman of the Birchard Systems, Inc., Hartford, was elected as the new president of the association for the coming year. Mr. Bohman has been a vice-president of the National Pest Control Association and was formerly president of the Connecticut Pest Control Association. Other officers and directors of the association are as follows:

Vice-Presidents

George R. Elliott—Worcester
Lawrence A. McKenna—Cleveland
William Hogan—Pasadena
Max J. Levy—St. Paul
Otto Orkin—Atlanta
J. L. Howell—Houston

Treasurer

Robert C. Yeager—Cincinnati

Secretary

William O. Buettner—Brooklyn

Directors to fill unexpired terms

Mrs. Robert W. Laing—Cleveland
E. D. Smith—Los Angeles

Directors

Bert Lewis—Muncie
E. N. Goldey—New York
Charles Denny—St. Louis
Wm. McCain—Dayton
Louis Gatto—Beaver Falls, Pa.
V. H. Montgomery—San Francisco
Mrs. Ada Williams—Albuquerque

Special Director

Harold E. Jennings—will continue as a member of the board although at present with the naval forces.

In his annual secretary's report, Mr. Buettner called attention to the important role of the pest control industry in keeping the civilian population at peak efficiency to make their maximum contribution to the war effort. He pointed out specifically that without the efficient services of the pest control industry, the country could expect a tremendous loss in foods, moth damage of growing seriousness, and dangerous conditions of insanitation.

Highlights on a business program packed with important addresses were the following:

"Substitutes for Pyrethrum in Roach Control"
Dr. F. L. Campbell

"The Plight of a Service Industry"
J. D. Vail, Jr.

"Pest Control From the Point of View of a Public Health Official"
Dr. I. H. Alexander

"The Chemicals Situation"
Melvin Goldberg

"The Control of Pests in the Sixth Service Command"
Lieutenant I. H. Gilbert

"General Instructions for Handling Dangerous Gases"
Dr. J. H. Foulger

"Analysis of Accidents and Fatalities"
Lothar Vogel

Dr. James C. Munch spoke on "Theory of Poisons and Antidotes," the full text of his paper appearing elsewhere in this issue.

A series of motion pictures dealing with fumigation, insect and rodent control, etc., were shown on the evening of October 26. A Hallowe'en party was the main attraction on the second evening, and the annual banquet on Wednesday evening, October 28, completed the three-day session.

President-elect Frank Bohman of the N. P. C. A. (right) receives the congratulations of secretary William Buettner. Photo by Walter McCloud.

So far as we can see—

. . .

there's no change in the situation regarding Adam A. Breuer's ELECTRIC INSECTICIDE SPRAYER

IN its all-out war effort, this nation is being called upon to exact from its industries the utmost in war production. In response to our nation's need, we are discontinuing for the duration the manufacture of Adam A. Breuer's ELECTRIC INSECTICIDE SPRAYERS.

This simply clarifies our position to our many customers so they will know our sincere and earnest desire to serve them with their needs in Insecticide Sprayers. We appreciate your patience and cooperation.

We do not sell Insecticides. Our business is the manufacture of Sprayers. (Patented in U. S. A. and foreign countries).

BREUER ELECTRIC MFG. CO.

5118 N. RAVENSWOOD AVENUE • CHICAGO, ILL.

Play Safe—sell or recommend the 4 in 1 wherever your products are used.

- Used and approved by floor maintenance experts since July, 1939.
- Requires no metal whatever, thus assuring an unlimited supply in war time.
- A quality applicator backed by our many years' experience in the industry.
- Every square inch of the premium quality wool pad is usable. The 4 in 1 offers the best insurance that floor waxes, seals and other floor finishes are applied properly.

AMERICAN STANDARD MFG. CO.

2509-13 S. Green St. Chicago, Ill.

METAPLUS

a substitute or alternate for TRI SODIUM PHOSPHATE

METAPLUS cleans better, costs less and is more available.

We guarantee METAPLUS to out-perform Tri sodium phosphate in any cleaning operation by itself or in mixtures.

Backed by twelve years successful experience in the alkali cleaning field.

We have a very interesting proposition to offer reliable jobbers.

Announcement

MACKENZIE LABORATORIES, INC.

FRONT AND YARNALL STREETS

CHESTER, PA.

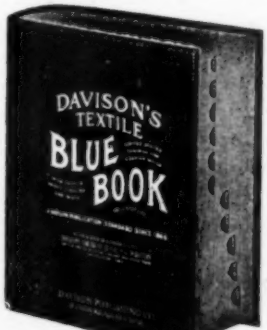
Textile Plants Need Soap

ALMOST NINE THOUSAND Textile Mills, Dyers, Finishers, Bleachers and printers in the United States and Canada are fully reported in the new 77th Year Book. Many Mills and Dyers Buy Soap in large amounts!

In addition 30,000 associated firms are listed and reported —dry goods commission merchants, yarn, cotton, linters, silk, rayon, waste, wool, rags, fibres, machinery, chemicals, supplies and other allied industries.

77th Year

Issued annually—Supplement of New Mills and changes is sent to every subscriber free



77th Year

DeLuxe Office Edition $8.25

Thin Paper Handy Size $5.75

Salesmen's Edition $4.50

New 77th Year Issue!

Over fourteen hundred pages in size, thumb indexed for quick reference, strongly bound and with information arranged for instant use, this volume will make money for your sales department.

DAVISON'S TEXTILE BLUE BOOK

"A Davison Publication — Standard Since 1866"

Executive, Sales and Production Offices

RIDGEWOOD -:- NEW JERSEY, U. S. A.

Amer. Home Products Earnings

American Home Products Corp. had a net income of $2,619,065 for the first eight months of 1942, equal to $3.07 a share, after a $3,455,923 provision for Federal and foreign income and excess profits taxes.

Van A. Employees in Service

Since January 1941, 24 employees of Van Ameringen-Haebler, Inc., New York, have joined the armed forces of the United States. Three of these received commissions, each in a different branch of the Service. Major Herbert F. Croen is attached to the Chemical Warfare Division of the Army, Lieutenant (J.G.) Robert R. Oliver is serving with the Coast Guard, and Ensign Raymond G. McCue is in the Navy. Others in service are: John Mangin, Robert Armstrong, Walter Muller, William Herilla, Joseph Mariano, Herman Messinger, Dominic Isoldi, Elmer Sulik, Robert E. Johnson, Raymond J. McErlean, Jr., Robert Ascolese, Anthony J. Bondi, Siegfried Altscher, John Marley, Joseph McGlynn, Alex Lefchick, Eric Barsohn, Joseph Weinbel, Arthur Vassallo, Walter M. Shable and John Power.

Develop New Roach Powder

A diluent for roach powder which permits a sharp reduction in percentage of toxic ingredients has just been developed by the University of Tennessee Agricultural Experiment Station, Knoxville, Tenn. It is said to be a special type dextrin and will be offered under the trade name "Carbo." The material is being patented and will be licensed to users.

When "Carbo" is used as the carrier it is said that use of only ten per cent of sodium fluoride and ten per cent of pyrethrum is required to produce an effective roach powder. Several tests by local exterminators on the new powder under practical conditions are said to have given good results. The reduction in percentage of sodium fluoride reduces the danger of fatalities, giving a relatively safe and non-poisonous material.

A number of toxic ingredients and possible diluents were tested in developing the new product. The test method employed was a modification of that employed by Waters, a more complete description of which will appear in an early issue of the *Journal of Economic Entomology*.

Sodium fluoride and pyrethrum were found to be the most effective toxic agents. One of the most interesting developments of the study was the synergism exhibited by their combination; that is, a mixture of sodium fluoride and pyrethrum was found to be more effective than either one alone. This synergistic effect is most apparent when small dosages are employed. For example, when 100 milligrams of either pyrethrum or sodium fluoride were used in the dust chamber, practically no kill was obtained, but when only 50 milligrams of the two were combined, a good kill resulted.

In ordinary practice, all the advantages of this synergistic effect are not realized because more material is dusted out than is necessary. When small amounts of these toxics are employed, their effect is again nullified because the common carriers or diluents available are incompatible and appear to destroy the toxicity. After testing a large number of possible diluents, one was found to be decidedly superior to all the others by retaining the toxicity of small amounts of sodium fluoride and pyrethrum in combination. This new diluent, a complex carbohydrate, is said to be reasonable in cost, allowing manufacture of an effective roach powder.

The development work was done by S. Marcovitch and W. W. Stanley.

Furniture Polish Base

A viscous, non-gelatinized product suitable for use in furniture polish is formed by oxidizing with an oxygen-containing gas the reaction product of ricinoleic acid or of castor oil with an aldehyde or ketone such as formaldehyde or acetone. The mass is heated at about 110-125° for 25-50 hours to bring about the desired reaction. Everitt W. Mace, to Petrolite Corp., Ltd. U. S. Patent No. 2,281,316.

F. Weber 50 Yrs. At Lueders

Ferdinand Weber, vice-president and treasurer of George Lueders & Co., dealers in essential oils, New York, on October 3, became the third member of that company to attain the fifty year service mark. At a dinner given in his honor at the Hotel Astor on October 2, Mr. Weber was presented with a pair of diamond studded cuff links by the directors of the firm, and a set of luggage by the employees. Ninety members of the organization, including managers of various branch offices in the United States and Canada, as well as officers and directors of the company attended.

Help, Inc., Moves

Help, Inc., Chicago, makers of household cleaners and white shoe polish, have moved to new and larger quarters at 512 N. LaSalle Street. They were formerly at 3005 Carroll Ave.

Rotenone-bearing Plants

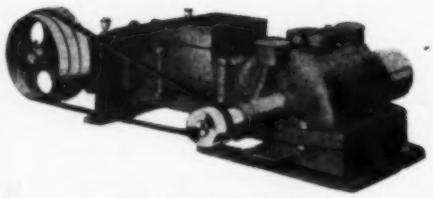
Roots of bushy, small-leaved *Lonchocarpus* plants were more toxic to houseflies than those of tall, large-leaved plants. The acetone extracts were used in these toxicity tests. Three samples of *Tephrosia toxicaria* air-dried roots yielded from zero to 0.46 per cent of rotenone, and from 2.85 to 4.25 per cent of total extractives. Rufus H. Moore. *Puerto Rico Agr. Expt. Sta., Ann. Rept.* 1939, 71-93; through Chem. Abs.

Bedbug Insecticides

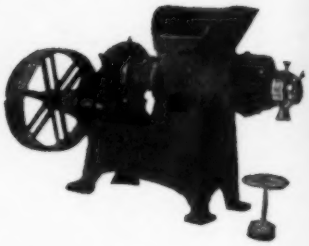
Of the more recently proposed materials as bedbug insecticides, *n*-butyl carbitol thiocyanate and lauryl thiocyanate deserve mention. Caution is advised in handling these in concentrated forms. Coal-tar naphtha with a boiling range of 160-190° C. has been found especially effective with an addition of 2 per cent of liquid carbolic acid containing at least 90 per cent of cresols. *Chem. Trade J. & Chem. Engineer* 111, 228-30 (1942).

Special Offerings of SOAP MACHINERY *Completely Rebuilt!*

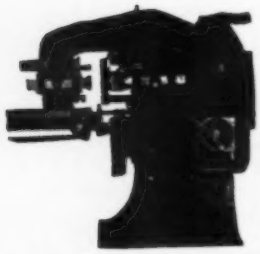
Newman's BRAND NEW Steel Steam Jacketed SOAP CRUTCHERS Sizes 1,000 to 10,000 lbs.



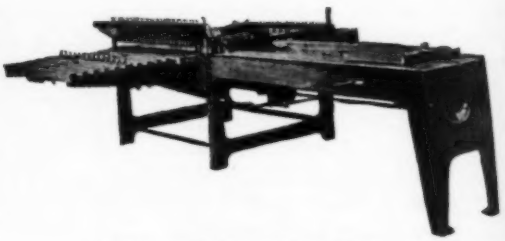
SOAP POWDER MILLS
Sizes 10A and 14



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

•

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

•

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H-A Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulverizer.

National Filling and Weighing Machines.

Send us a list of your surplus equipment—we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO — Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

DIRECTORY

FOSTER D. SNELL, Inc.

Our staff of chemists, engineers and bacteriologists with laboratories for analysis, research, physical testing and bacteriology are prepared to render you

Every Form of Chemical Service

313 Washington St., Brooklyn, N. Y.

H. A. SEIL, Ph.D. E. B. Putt, Ph.C., B.Sc.

SEIL, PUTT & RUSBY, Inc.

Analytical and Consulting Chemists

Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations

DRUGS—ESSENTIAL OILS—SOAP

16 East 34th St., New York, N. Y.

SKINNER & SHERMAN, INC.

246 Stuart Street Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for Phenol Coefficient. Toxicity Index determined by chick embryo method of Salle. Antiseptics tested by agar cup plate and other standard methods.

Chemical Analyses and Tests of All Kinds

Soaps • Waxes • Polishes
Detergents • Disinfectants

Analysis *Research*

Formula Development

Hochstadter Laboratories

254 West 31st St., New York City

PATENTS—TRADE MARKS

All cases submitted given personal attention

Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees"—Free.

Lancaster, Allwine & Rommel

PATENT LAW OFFICES

Suite 402, Bowen Bldg., Washington, D. C.

Soaps — Vegetable and Animal Fats — Glycerine — Detergents

Analysis — Research — Consultation

H. P. TREVITHICK, Chief Chemist

New York Produce Exchange

2 Broadway New York

Stillwell and Gladding, Inc.

Analytical and Consulting Chemists

Members Association of Consulting Chemists and Chemical Engineers

130 Cedar St., New York City

ALAN PORTER LEE, Inc.

Contracting & Consulting Engineers

Design and Construction of Equipment and Plants for Producing and Processing Fats, Oils, Soaps and Related Products

136 Liberty St., New York

Cable Address: "ALPORTLE", New York

CLASSIFIED

Positions Wanted

Soap Maker, (Liquid Soaps) experienced. Knowledge of waxes and polishes desirable but not essential. Address Box No. 410, care *Soap & Sanitary Chemicals.*

Soap Chemist—man with fifteen years experience in soaps, household specialties, cosmetics, perfuming materials, desires new connection in the soap or allied industry. Good record, best references; for further details write Box No. 392, care *Soap & Sanitary Chemicals.*

Soapmaker and Chemist with long experience making all kinds of soaps; glycerine recovery, etc. Can take full charge of plant. Address Box No. 411, care *Soap & Sanitary Chemicals.*

Soap Maker—Superintendent—Over 40 years experience in manufacture of all types of toilet, laundry, potash and textile soaps in United States, South America and Europe. Seeks new connection. Will go anywhere. Full knowledge of all machines, management, departments, construction, operation; chemical control of processes; research and development of new products and processes. Seeking new connection. Married, pleasing personality, tactful, energetic. Good organizer. Dependable and reliable. Address Box No. 408, care *Soap & Sanitary Chemicals.*

Perfumer — man with fifteen years experience in cosmetics, essential oils, formulas, manufacturing, packaging and marketing cosmetics, desires new position. Finest references. Address Box No. 393, care *Soap & Sanitary Chemicals.*

SOAP DIES and MOULDS

—for—
TOILET SOAPS
LAUNDRY SOAPS AND
BATH TABLET
STAMPING

For Foot and Power Presses

Established 1894

ANTHONY J. FRIES & SON CO.

717 Sycamore Street — Cincinnati. O.. U. S. A.

Flexibility In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER offers a choice of four forward and reverse speeds. The flexibility in operating technique afforded by this wide choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2,400 and 3,200 pounds.

HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"

265 46th STREET — BROOKLYN, N. Y.

SAVE TO WIN! SAVE TIME & MONEY

Get
"Consolidated Equipment"

ON PACIFIC COAST

1—Dopp Vertical jacketed Soap Crutcher, 1500#.
4—Ralston Automatic Soap Presses.
5—Pkge. Machy. Co. Soap Wrapping Machines, Type N1.
1—Crosby Foot Press.
1—Dunning Soap Amalgamator, 1500#.

AT OUR NEWARK SHOPS

60—Assorted Bronze Soap Dies.
1—6-knife Soap Chipper, 15".
2—Hersey 1200# Horizontal Unjacketed Crutchers.
1—Houchin-Aiken 1200# Perfection Vertical Soap Crutcher.
1—#10A Blanchard Mill.
1—Soap Foot Press.
1—Sargent 60" x 72" Soap Chill Roll.

VISIT US AT BOOTH 182
CHICAGO CHEMICAL EXPOSITION
HOTEL SHERMAN
NOVEMBER 24-29

Send for New Illustrated Circular

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW — NEW YORK, N. Y.
BArclay 7-0600 — Cable Address: Equipment
We buy your idle Machinery—Send us a list.

TRI SODIUM PHOSPHATE

JOHN A. CHEW
INCORPORATED

60 E. 42nd ST. — MU. 2-0993
NEW YORK CITY

Positions Open

Man familiar with making soaps, waxes, disinfectants, polishes, and sanitary specialties. Must be able to take full charge. Middle West concern. State age and salary expected. Address Box No. 407, care *Soap & Sanitary Chemicals.*

Miscellaneous

For Sale: 1—Jacket Kettle 41 x 42″, 230 gallon; 1—Jacket Kettle, 28 x 30″, 75 gallon; 1—Jacket Kettle 45 x 42″, 280 gallon; 1—Round Tank 60 x 48″, 580 gallon; 1—Steamout Tank, 20 x 4 x 1½ ft. 1 — Houchin-Aiken, 1500 lbs., double-jacketed, Cleveland mixer. 1 — Cleveland mixer, 1000 lbs. Two-inch Lobee Pump, Buffalo. Address Box No. 409, care *Soap & Sanitary Chemicals.*

Floor Brushes — We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

For Sale: 2—5 Roll water cooled inclined steel roller mills, 16″ dia. x 40″ face. Allbright-Neil 3 x 8 ft. Flaking (chilling) Roll unit. Houchin-Aiken Foot Presses; 600 and 1500 lb. Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corp., 426 Broome Street, New York City.

For Sale: 2 — 4 Roll Granite Soap Mills; 4—Foote Power Soap Presses; 1—Jones Pin Die Press; 1—Ideal Amalgamator; 1 — 6″ Plodder; 1 — Perfection 1500 lb. Soap Crutcher; Blanchard Soap Powder Mills; Cutting Tables; Slabbers; Filter Presses, 12″ to 36″ square; Kettles, 15 to 2500 gal.; Filling, Labeling and Wrapping Machine; Pumps; Tanks; etc. Cash buyers of your surplus equipment. Brill Equipment Company, 183 Varick Street, New York City.

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 412, care *Soap & Sanitary Chemicals.*

For Sale:

Four Roll Granite Rutchman mills; Plodder; Sample Plodder; Heavy-duty Double-jacketed Hand Paste Mixers; Double-jacketed, Double Agitating Tank, 600 gal.; Storage Tanks; Soap Chipper and Frame Bottoms. Address Box No. 415, care *Soap & Sanitary Chemicals.*

Wanted: A full wrap labeller for labelling Boston round pint and quart bottles. Must be in good condition. Address Box No. 414, care *Soap & Sanitary Chemicals.*

Aerosol Mosquito Control

The toxicity to adult mosquitoes of aerosols was studied by spraying with solutions of insecticides in a liquefied gas. Aerosols of pyrethrum oleoresin and sesame oil were prepared by allowing a dichlorodifluoromethane solution of these substances to escape through an atomizing nozzle into a closed room. Adult mosquitoes (*Culex pipiens, Aedes aegypti, Anopheles punctipennis*) were confined in cages in the room. The dichlorodifluoromethane dissipates quickly, leaving the insecticide suspended in the air.

A solution containing 2.82 mg. of pyrethrin and 6.07 mg. of sesame oil per gram of solution, used at a dosage of 100 grams per 1000 cubic feet, knocked down 95 per cent of *C. pipiens* in 5 minutes and killed 99.9 per cent of the insects in 48 hours. A solution of 4.01 mg. of pyrethrin and 9.25 mg. of sesame oil per gram of solution, used at the same dosage, knocked down 95-100 per cent of *A. aegypti* and *A. punctipennis* in 5 minutes and killed 100 per cent in 48 hours. Satisfactory control of several species of flies was obtained by the same method in preliminary experiments. Fabrics sprayed with the solutions at a distance of 2 feet were not injured or stained. W. N. Sullivan, L. D. Goodhue and J. H. Fales. *J. Econ. Entomol.* 35, 48-51 (1942).

—— • ——

Fungicides on Athlete's Foot

Fungicides studied in the laboratory for killing dermatophytes such as exist in cases of athlete's foot were copper sulfate and para-nitrophenol. A 2 per cent solution of copper sulfate required 5 hours to kill *Tr. rubrum* and *E. floccosum,* while a 5 per cent solution took 4 hours to achieve the same result. A 20 per cent solution required 30 minutes and 60 minutes to kill *E. floccosum* and *Tr. rubrum* respectively. When a saturated aqueous solution of para-nitrophenol was used, the same differences were seen, 30 minutes being sufficient to kill the one fungus, while 2 hours were needed to kill the *Tricophyton.* Both were killed in about 15 minutes when this solution was used in vacuo, but when the strength of the para-nitrophenol was reduced to 1 per cent, 30-60 minutes were necessary. Frances L. Stephens. J. Roy. *Nav. Med. Serv.* 27, 273-81; through Chem. Abs.

Testing Insecticidal Sprays

A method of testing the film effect of pyrethrum-oil and other sprays for use against the flour beetle and other insects that attack stored products is described. Deposits of approximately 1.5-2.6 or more milligrams per square centimeter are applied to Whatman No. 544 filter paper using the Potter spray tower. The insects are then confined on the sprayed paper under controlled conditions. The test will usually distinguish concentrations of 0.7 from 0.8 per cent pyrethrin I in oil and is to be used in a study of new insecticides including activators for pyrethrum. A 2.5 per cent volume of a 10 per cent solution of pyrocathechol in ether is added to pyrethrum-oil sprays as a stabilizer. E. A. Parkin. *Nature* 149, 720-2 (1942).

—— • ——

A germicidal concentrate is formed containing 24 parts of *ortho*-phenylphenol dissolved in 36-136 parts of a partially neutralized sulfonated castor or sperm oil. The concentrate gives a 5 per cent aqueous solution with a pH above 7.0. Luther S. Roehm, to Dow Chemical Co. U. S. Patent No. 2,281,249.

Peck's OIL SOAPS

NU-CROWN—60-65%
FLO-CROWN—75-80%

CROWN BASE SOAPS are suitable for all types of cleaning maintenance work. Made from refined vegetable oils, American potash and distilled water. Nu-Crown, 60-65% soap, fast and heavy lather, cleans thoroughly, rinses easily. Flo-Crown, 75-80% soap, for making lower percentage soaps only, semi-fluid, easy to handle.

One of a full line of sanitary specialties manufactured by Peck for sanitary specialists.

Peck's 5224-40 NORTH 2nd ST., ST. LOUIS, MO.
NEW YORK . . . . KANSAS CITY
PRODUCTS COMPANY

Everything in Soaps, Disinfectants, Waxes, Etc.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin. ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"

MIRVALE

CRESYLIC ACID
• • •
HIGH BOILING TAR ACIDS
• • •
NAPHTHALENE
• • •
TAR ACID CREOSOTE OIL
• • •

MIRVALE CHEMICAL CO. LTD.
MIRFIELD, YORKS. ENGLAND

The answer to soap dispensing and sanitation without strategic materials

CHEMICALLY RESISTANT TUBING AND FITTINGS BY
HODGMAN

Saran Tubing by Hodgman is a tough thermoplastic specially made to replace strategic materials such as aluminum, stainless steel, nickel, copper, brass, tin and rubber. It is adaptable for use under high working and bursting pressures and is resistant to most chemicals. Its insulating qualities, flexibility and ease of handling make it extremely valuable in installations requiring the transport of oil, gas, air, water and corrosive chemicals . . . Flare type fittings of the same material make it possible to install a complete system with no more tools than a sharp knife and a flaring tool.

Send FOR DATA SHEET AND FREE SAMPLE.

Send FOR COMPLETE INFORMATION SHEET AND FREE SAMPLE

HODGMAN RUBBER CO.
FRAMINGHAM, MASS.
NEW YORK 261 Fifth Avenue · CHICAGO 432 South Wells St. · SAN FRANCISCO 121 Second St.

INDEX

* For further details see announcement in 1942 SOAP BLUE BOOK

*American-British Chemical Supplies 72
American Standard Mfg. Co. 112
Anchor-Hocking Glass Corp. 83
*Aromatic Products, Inc. 94

*Baird & McGuire, Inc. 84
Barrett Co. ..... Oct.
Bobrick Mfg. Co. ..... June
*Breuer Electric Mfg. Co. 112
Buckingham Wax Corp. ..... Oct.
Bush Pan-America, Ltd. 16

Chemical Supply Co. 104
John A. Chew, Inc. 116
*Antoine Chiris Co. ..... Oct.
*Clifton Chemical Co. ..... Oct.
*Columbia Chemical Division ..... Oct.
Compagnie Parento ..... Oct.
*Consolidated Products Co. 116
*Continental Can Co. ..... Bet. 92 and 93
Cowles Detergent Co. ..... Oct.
*Crown Can Co. 44

*Davies-Young Soap Co. 17
*Derris, Inc. 108
Diamond Alkali Co. ..... Oct.
*Dodge & Olcott Co. 54, 82
*Dow Chemical Co. ..... 4th Cover
E. F. Drew & Co. 108
P. R. Dreyer Inc. 62
*E. I. du Pont de Nemours ..... Oct.

*Eastern Industries 34
Emery Industries, Inc. ..... Oct.

Federal Tool Corp. 72
*Federal Varnish Co. 102
*Felton Chemical Co. 6, 10
Fezandie & Sperrle 110
*Firmenich & Co. ..... Sept.
Anthony J. Fries 116
Fritzsche Brothers, Inc. 40
*Fuld Brothers 3

*General Drug Co. ..... 2nd Cover
*R. Gesell, Inc. ..... Oct.
Gillespie-Rogers-Pyatt Co. 104
*Givaudan-Delawanna, Inc. 12, 13
*James Good Co. 110
A. Gross & Co. 54

Haag Laboratories, Inc. 102
W. C. Hardesty Co. 68
Hercules Powder Co. 80
*Hochstadter Laboratories 115
Hodgman Rubber Co. 118
R. M. Hollingshead Corp. 106
*Hooker Electrochemical Co. ..... Oct.
*Houchin Machinery Co. 60
Huber Machine Co. 116
*Hysan Products Co. 9

Industrial Chemical Sales Division
W. Va. Pulp & Paper Co. 56
*Innis-Speiden & Co. 52
Interstate Color Co. 108

R. A. Jones & Co. 18

Ken-Ya-Pye ..... Facing 101
Karl Kiefer Machine Co. ..... Oct.
*Koppers Co. ..... Facing 100
Kranich Soap Co. 52

Lancaster, Allwine & Rommel 115
*A. P. Lee Co. 115
*J. M. Lehmann Co. ..... Oct.
Geo. Lueders & Co. ..... Oct.

MacKenzie Laboratories 112
Magnus, Mabee & Reynard, Inc. 76
N. I. Malmstrom & Co. 48
Maryland Glass Corp. ..... Oct.
Michigan Alkali Co. 11
Mirvale Chem. Co. 118
Monsanto Chemical Corp. ..... Sept.

National Can Co. 78, 79
Newman Tallow & Soap Machinery Co. 114
*Niagara Alkali Co. ..... Facing 92
Norda Essential Oil & Chemical Co. 15

*Orbis Products Co. ..... Oct.

Pecks Products Co. 118
*S. B. Penick & Co. 96
*Pennsylvania Refining Co. ..... Oct.
Philadelphia Quartz Co. 38
*Pittsburgh Coal Carbonization Co. ..... Oct.
*Pittsburgh Plate Glass Co. ..... Oct.
H. K. Porter Co. ..... Oct.
*John Powell & Co. 75
R. J. Prentiss & Co. 77
*Proctor & Schwartz, Inc. 70
Pumice Corp. of Am. 70
*Pylam Products Co. 118

*Reilly Tar & Chemical Co. 106
*Rohm & Haas Co. ..... 3rd Cover

*C. G. Sargent's Sons Corp. 62
Schimmel & Co. 46
F. E. Schundler & Co. 68
Seil, Putt & Rusby 115
*Skinner & Sherman 115
*Foster D. Snell 115
*Solvay Sales Corp. 14
*L. Sonneborn Sons 98
Standard Silicate Co. ..... Oct.
Standard Synthetics, Inc. 8
Stillwell & Gladding 115
*Stokes & Smith Co. 7
Stroock & Wittenberg ..... Facing 93

*Tar & Chem. Division Koppers Co. ..... Facing 100
Harry P. Trevithick 115
Jos. Turner & Co. ..... Oct.

*Uncle Sam Chemical Co. 98
Ungerer & Co. ..... Front Cover
U. S. Industrial Chemicals, Inc. ..... 65 & 66

Van Ameringen-Haebler, Inc. 4, 81
Velsicol Corp. ..... Sept.
*Albert Verley and Co. 42

*Warner Chemical Co. ..... July
*Welch, Holme & Clark Co. 50
*White Tar Co. of N. J. ..... Facing 100
Whittaker, Clark & Daniels 70
Whitmire Research Corp. ..... June
*Woburn Degreasing Co. 50

York Chemical Co. 110

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

. . . blackout?

AFTER the war blackout, will your old customers remember who you are and what you sell? While you are buried in necessary war work, will you give them a chance to forget you,—give your competitors a chance to win them away from you? Or will you keep your firm and your products everlastingly before them through regular advertising so that they will not have forgotten you when the blackout is over?

If you want them to remember you "after the blackout" in the field of soap products, insecticides, disinfectants, and allied chemical specialties, we suggest the regular use of advertising space in

SOAP *and Sanitary Chemicals*
254 WEST 31st STREET NEW YORK

Member Audit Bureau of Circulations

Tale Ends

NEWS of the month included report of a vote to strike at an eastern soap and glycerine plant which plant is stated to be producing glycerine for the Government. The strike vote came after unsuccessful wage negotiations carried on since last April. Where was the War Labor Board all that time? Fishing?

* * *

And speaking of a glycerine plant strike, what would you feel like doing right now if you were a U. S. Marine in the Solomon Islands being shot at regularly by the Japs at the high wage rate of $50 monthly?

* * *

Don't count too much on that 100,000,000 pound market for soap in synthetic rubber after the war. V.-P. Henry Wallace says the synthetic rubber tire is a "war baby" and the cost is so great that it will be impractical to continue manufacture after the war. But, says he, they will continue to be produced for the duration at any cost!

* * *

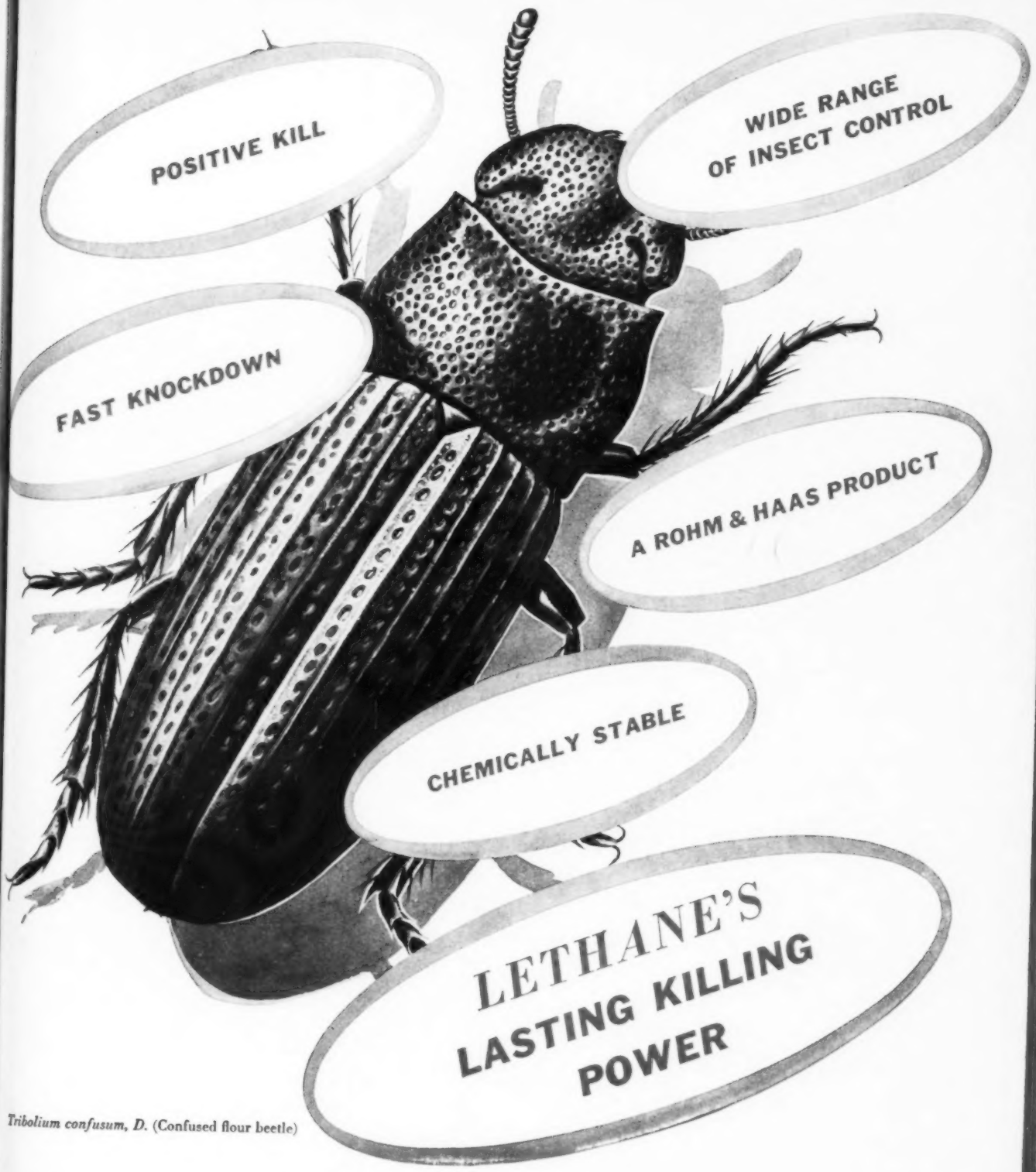
If W.P.B. continues to go further in restricting pyrethrum, socialization in the pyrethrum industry will no longer be a theory,—it will be a fact and the Government will be in the pyrethrum business.

* * *

Some of the shampoos made without coconut oil appear to be meeting with fair success. One popped up recently made of a mixture of red oil and soya bean oil fatty acids which lathered almost as well as the former straight coconut oil product. But how will it keep on the shelves of retailers who do not sell it too fast?

* * *

Right now, at the rate things are developing in Washington, we suggest that you do not miss any copies of *Soap & Sanitary Chemicals*,—make sure that your subscription is paid,—when you receive a subscription renewal blank, send in your check at once before you forget it. Don't miss any issues as there is no assurance that we can supply them to you later!



Tribolium confusum, D. (Confused flour beetle)

LASTING KILLING POWER is another element of LETHANE's superior insecticidal properties. By retaining their killing power, LETHANE 384 and LETHANE 384 SPECIAL spray residues help control many insect pests. For such pests as the flour beetle, the bedbug, or the clothes moth larvae, this extra control is a significant part of the total kill.

LETHANE IS A TRADE MARK, REG. U. S. PAT. OFF.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Specialties and Finishes . . Enzymes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

CHICAGO · KANSAS CITY, MO. · OAKLAND & SOUTH GATE, CAL. · ROHM & HAAS (CANADA) LTD., TORONTO, CANADIAN DISTRIBUTOR

WANTED

PULLMAN SEAT FOR A CHEMICAL DRUM!

Situation Urgent!

HANDLE DRUMS CAREFULLY, RETURN PROMPTLY

Chemical Drums don't travel by Pullman, of course. But we're taking this method of again calling to your attention the urgent necessity for giving every single drum *FIRST CLASS* treatment and a quick return trip to us.

You already know the story well. Steel is scarce. Drums are scarcer. And the bald fact is—unless every available drum is handled quickly and carefully—and returned promptly—even the chemicals they contain will be difficult to obtain.

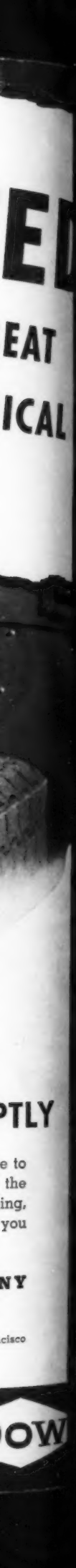
If you have not already done so, we would like to suggest that you bring this urgent matter to the attention of all employes involved with shipping, receiving and handling of drums. It will pay you big dividends in the end.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco
Seattle • Los Angeles

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

DOW


E
EAT
ICAL
PTLY
e to
the
ing,
you
NY
cisco
OW